

TALES of WONDER AND SUPER-SCIENCE

No. 15

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THE MOON ERA

by JACK WILLIAMSON

LADY OF THE ATOMS

by MILES J. BREUER

ESCAPE TO MLOK

by CLARK ASHTON SMITH

Hitler Might Have
Conquered Space!

TALES OF WONDER *and Super-Science*

No. 15.

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CONTENTS

Complete Novelette:

- ## THE MOON ERA

JACK WILLIAMSON

He saw the Lunar world as it was before it grew cold, and the grotesque machine-beings of its dying civilisation.

Short Stories:

- THE COSMIC CLOUD** Geo. C. Wallis 37
*It was an act of supreme self-sacrifice by a whole planet,
 which destroyed itself that Earth might live.*

LADY OF THE ATOMS MILES J. BREUER, M.D. 47
*Something was missing from his life . . . so he built his dream
 with the stuff of reality.*

- ## THE INSECT WORLD THOS. S. GARDNER 53

*Where now the ants and termites ruled, a strange species called
Man had once held sway.*

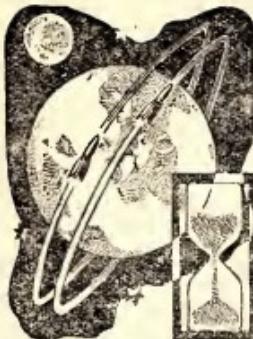
- ## ESCAPE TO MLOK CLARK ASHTON SMITH 57

He deserted the mundane world for an utterly alien sphere, borne by outlandish creatures from afar.

Departments:

- | | |
|--|---------------------------|
| SCIENCE-FANTASY FORUM—Readers' Ideas | 2 |
| READERS' REACTIONS—Letters to the Editor | 68 |
| (Cover Design by J. NICOLSON) | (Illustrations by TURNER) |

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TALES OF WONDER

and Super-Science

No. 15

Autumn, 1941

WALTER H. GILLINGS, EDITOR

SCIENCE-FANTASY FORUM: Readers' Ideas

IF HITLER HAD LAID CLAIM TO LUNA . . .

SEVERAL times lately, newspaper cartoonists have toyed with the notion that Adolf Hitler might one day excel himself and make a territorial claim on the Moon. The suggestion is not so ridiculous as it would seem, though it would have been more credible had it been advanced some years ago, and might actually have happened. So, at least, thinks one TALES OF WONDER reader, who wins the prize of 5s. offered for the best contribution to our new feature:

B. E. ORCHARD,
18, Primrose Road, Leyton, E.10.

He writes:

Had the would-be conqueror of the world been even more ambitious and, instead of trying to dominate the Earth, have directed his violent energies towards making the Moon a celestial colony of Germany's, events would have taken an entirely different course and the present world upheaval have been avoided. But, now, Hitler has lost his great opportunity; and the progress of mankind, which he might have assisted beyond all estimation, has been retarded as a result.

Such a task, though gigantic enough,

would have been no more formidable than the one he chose to set himself and his minions, and might have been accomplished with much less expenditure of money, human life and effort than he has wasted on his present vain enterprise. It might have taken him longer to reach his heavenly goal than he has allowed himself for attaining the Earthly one, but he would in the end have gained much more in territory and power, besides earning for himself and his nation the admiration of the rest of the world, instead of the blazing enmity which must soon bring his downfall. Immortal fame and glory would have attached to his name, as the man who had organised the conquest of space and opened a new epoch in the career of mankind.

Students of astronautics will recall that, at about the time that Hitler took their destiny into his iron hands, the German people were showing a promising interest in the development of the rocket as a means of propelling a vessel through interplanetary space, following the publication of Professor Hermann Oberth's famous book on the subject, in 1923. This had inspired other German scientists to apply their minds to the problems of space navi-

gation: among them, Max Valier, who devoted all his energies, and finally sacrificed his life, to the work of making the Germans "space-minded." At the time, he was planning a flight from Calais to Dover in a rocket aeroplane, which he and Oberth foresaw as the forerunner of the interplanetary ship, visualising giant craft which would rise from Berlin thirty miles into the stratosphere and land in New York within an hour.

Another of these pioneers, who, to stimulate public interest in the new idea and to experiment among themselves, founded the German Interplanetary Society, was the novelist, Otto Willi Gail, who wrote two popular tales anticipating the building of the first space-ship and its successful voyage to Luna. World-wide publicity was given to their endeavours by the film producer, Fritz Lang, who in 1929 made the famous screen fantasy, *The Girl in the Moon*, also depicting an expedition to the satellite. Of more practical value was the assistance of Fritz von Opel, the German motor-car magnate, who applied the rocket to the automobile and also built a rocket-plane.

In 1931, these daring experimenters established near Berlin the first rocket-flying field, where they continued their researches, ever seeking the perfect fuel for their projectiles, which would combine maximum power with safety. Meanwhile, several other German inventors were conducting similar tests on their own, some of whom achieved remarkable success; and despite temporary defeats, and often disaster, swift progress would have been made by these champions of space-travel if they had been able to continue their work unimpeded by political developments.

In time, no doubt, an unmanned rocket would have been landed on the Moon; and then it would have been a mere matter of money and industry before the first heroic astronauts braved the perils of the Lunar voyage in a huge projectile designed and equipped to carry them. They might not have succeeded at the initial attempt, but eventually, at whatever sacrifice, they would have triumphed.

But since Hitler mobilised the whole of Germany's resources, including scientific research, for the sole purpose of extending the German Empire on Earth, further

progress in the field of rocketry has been stopped. If, however, he had seized his golden opportunity, he might have found it advantageous to encourage the rocketeers in their ambitious efforts so far as to place the entire resources of the nation at their disposal, and to apply the energies of the people towards a project of space conquest with which their imaginations were already fired. So he could have acquired 14,600,000 square miles of yet unclaimed territory—nearly as much as North and South America together—in the form of a separate, isolated sphere remote from invading armies and air fleets, and accessible only to those who might cross the intervening gulf in one of his Lunar transports.

There would be ample space for Germany's excess population to settle, and form a colony to develop the Moon's resources for the benefit of the Fatherland and cover themselves with glory as the pioneers of extra-terrestrial activity. They might find shelter in vast, natural caverns beneath the rocky surface, or within the tremendous craters, where they could build great underground cities; and the mining of veins of precious metal indicated by the bright streaks radiating from Tycho would more than repay the cost of the first expedition and serve to finance further spatial enterprises. So that, in due time, monster vessels would go out to explore and colonise Mars, Venus, and remote planets, and found what might become a thriving inter-world commerce.

According to the estimate of Oberth himself, the cost of designing and constructing the first rocket-vessel to carry men to the Moon (which might well have been named *Der Führer*), would reach £20,000,000, or the equivalent of building two battleships. It would, therefore, be an undertaking by no means as expensive as preparation for war, and much more remunerative; for the possibilities of development are unlimited . . .

And even supposing that, contrary to expectations, there proved to be inhabitants to resent the intrusion of the Earthmen, it should present no hindrance to the success of Hitler's territorial claim and the planting of the Swastika upon the topmost Lunar peak, if he employed the same technique as he has used terrestrially. Can't you imagine Fifth Columnists, even

a Quisling, in the ranks of the alien Selenites?

THE close proximity of Mars to the Earth, at the present time, prompts another reader—C. J. WILLIAMSON, The Studio, Scalloway, Shetland, who gains a prize of 2s. 6d.—to consider the possibility of the Martians being aware of our existence, should they themselves actually exist. He writes:

In July, 1939, the planet Mars and the Earth were in opposition, passing at a distance favourable to astronomical observation. The old urge to attempt communication was renewed, on that occasion, and American short-wave radio stations sent out signals on high power during the night of closest approach, while many amateurs twiddled their dials in hopes of a reply which is still awaited.

Whether those signals ever reached their intended destination, or were returned Earthwards by the supposed reflecting layers of our upper atmosphere, is a question we have no means of answering at present. But it may not have occurred to everybody that a definite signal was actually given at that time, which, though unintentional, had every chance of being observed on Mars, provided there are on that planet optical in-

struments equal in power to those of our terrestrial observatories. I refer to the general black-out of a large part of Europe which, strangely enough, practically coincided with the Martian oppositions.

At such times, Mars is usually very well placed in our sky for telescopic study, its whole disc being illuminated in bright sunshine. To the Martians, however, these occasions would be most unsuited to observation of Earth, which presents only an extremely thin crescent in the Martian noonday sky, very similar to the phase presented by the planet Venus when viewed from Earth at times of close approach. To observers on Mars, therefore, Earth would present itself most conspicuously in their evening and morning skies several months before and after its closest approach to us. The case of 1939 would probably give April and October of that year as the corresponding periods of good observation.

An eminent astronomer has stated that it should be possible to see the lights of our largest cities from Mars with a telescope of 100-inch aperture; and Professor Lowell, who spent his life studying the planet, said in his book, Mars and Its Canals: "we shall not be far astray if

[CONTINUED ON PAGE 4]

SEND US THAT PET IDEA OF YOURS!

In this issue we introduce a new feature which combines our *Search for Ideas* with the opportunity many readers have asked for—to send us their speculations, suggestions and queries upon their favourite science-fantasy subjects, whatever they may be, and to seek the opinions of other readers upon them. We invite all who have new ideas, theories or information upon any topic of imaginative appeal, and any who have questions they want answering, to contribute them to these pages, where they will be included so far as space permits and as long as they are likely to be of general interest. The Editor reserves the right to decide this point, and will award a prize of 5s. for what he considers the best contribution in each issue, and consolation prizes of 2s. 6d. for other interesting offerings. All material for this feature should be addressed to *Science-Fantasy Forum, TALES OF WONDER, The Windmill Press, Kingswood, Surrey*. Queries requiring a personal reply should be accompanied by a stamped, addressed envelope.

we put one mile as the limiting width which could be perceived on Mars at present, with distance at its least and definition at its best." The telescope used by Lowell in his great work was one of only 24-inch aperture; so it would seem that, in viewing Earth from Mars, whose atmosphere is much less dense and disturbed than ours, much greater magnification could be used and objects considerably less than a mile in width discerned.

The lights of our cities, scattered over many square miles, should be recognisable points of light on the dark side of Earth; and as our planet approached them, two years ago, no doubt the Martian observers noted all its usual features—pole-caps, cloud-belts, seasonal changes—just as they had seen them many times before. Then, after opposition, when the planets were in a position to permit the renewed study of Earth, one can imagine their interest in the disappearance of so many of our brighter European lights, while other cities remote from the war zone shone bright as ever.

Would they have deduced the reason? Perhaps they may have associated what they observed during 1914-18 with the recent change. If there be intelligent life on Mars, as advanced as some believe it would be, they may know a great deal of man and his works. But if perchance the black-out be regarded by them as a signal, what response will they give us on their close approach again, next October?

READER GEORGE WINTERUM, of 35, Shelgate Road, Battersea Rise, S.W. 11, also secures a prize of 2s. 6d. for his speculations on the question of man and the Moon, and whether the Lunar rays influence human behaviour. He mentions a case where a young man charged with a certain offence was said to be "Moon-ruled" at the time of committing it, and another case of a youth who was found guilty but insane when accused of murdering his sweetheart, after the court had been told how he was affected by the Moon when it was full.

On this occasion (he writes), a doctor witness was asked if insane people were worse at the time of the full Moon, and he described the notion as "pure romance." Medical science has always

been sceptical of the supposed connection between the Moon and mental disorder, but still the idea persists, and there is certain evidence to indicate that it may not be entirely "moonshine."

How ancient is the superstitious belief that the Moon's rays are actually responsible for mental aberration is apparent from the fact that the word lunacy itself is derived from the Latin name for Earth's satellite. In the sixteenth century, Francis Bacon fancied that "the brain of man waxeth moister and fuller upon the full of the Moon," and in support of his theory recorded that moonlight stimulates the growth of plants and hair.

Its beneficent effect on plants, which has since been proved by experiment, explains why country folk often put in their seeds at certain phases of the Moon. But whether its rays have a stimulating or exciting effect on the human nervous system, causing some people who are more susceptible to them than others to become "moon-struck," is a mystery that has yet to be solved.

In 1814, Benjamin Rush made some observations concerning the effect of moonlight on persons whose minds were already deranged, and found their behaviour no different when the Moon was full from what it was when there was no Moon at all. But there is no recorded instance of mental disturbance being directly caused by prolonged exposure to Luna's silvery beams, such as would satisfy science.

After all, moonlight is only the reflected light of the Sun shining on the dark side of Earth, with but a tiny fraction of the intensity of his direct rays, even when the Moon is full and we are receiving the maximum amount of her gentle radiance. In the Sun's rays themselves are many different radiations, some of which are beneficial, and others harmful or even deadly; though Earth's blanket of atmosphere shields us from the full destructive effects of the less benign of them.

However, among these Solar radiations are some which are suspected of influencing the delicate structure of the human brain, in a way not yet clear to us. The vast areas of electrical disturbance on the Sun's seething surface, which appear to us as Sunspots and are believed to interfere with our radio waves, may also affect

man's emotional and volitional centres so that he is not entirely responsible for his own actions at times. Indeed, a Russian scientist has declared his opinion that Sunspots are probably to blame for sudden crime waves, he having found that the responsibility of a person in the commission of a crime decreased according to the periods of their greatest activity. The French savant, the Abbé Moreux, also demonstrated that great wars invariably follow a large crop of Sunspots.

To these mysterious radiations from the Sun we are all equally exposed, though some of us may be more sensitive to them than the rest. Is it possible that the Solar rays, when reflected by the Moon's airless surface, may acquire still stronger powers which are yet more restricted in their capacity to evoke response in the human mind?

MANY readers have sent us queries on scientific subjects, to most of which personal replies have been given. Others, of general interest, we shall answer here, or invite other readers to comment upon; though, obviously, we cannot deal with all of them in these pages.

PTE. H. H. CAPLAN, R.A.S.C., somewhere-in-England, offers a poser concerning Time and the atoms. He writes:

May it be assumed that the whole Universe—every atom in existence—is motionless at any given instant in time? Not an infinitesimal period, but at a definite point in the passage of time? —I think that may be conclusively stated, as any movement, however small, must take a period of time; and as we only state a point in time, then every particle of matter must, at that given instant, be motionless. Without time, there can be no motion.

If you will admit that assumption, perhaps you, or one of your readers, can explain this paradox. It is my belief that, just as the electron is the smallest particle of matter, there is also the smallest possible period of time, which goes to make up continuous time, as we know it. Let us liken time to a piece of string of infinite length. That also is continuous, and we may pick upon any point or "instant" as we wish. But continuous as that string appears to be, it is

actually composed of an infinite number of particles or atoms.

Time, I believe, is the same, composed of a number of "instants" or "points"—let us call them "time-atoms." It would follow that at every time-atom in the passage of time, the movement of matter is non-existent, apparent motion being made in a series of jerks, just as the cinematograph film creates the illusion of movement. I assume, therefore, that the electron is in a slightly different position at each succeeding time-atom. And here is the paradox: where is it in the course of transit from one position to the next? Non-existent?

It is definitely not moving from one to the other; for that would necessitate an ever smaller period of time for it to exist between the beginning and end of its journey, and we are already dealing with the infinite! Does it mean that every particle of matter in existence comes into being and vanishes, billions of times each second, in order to simulate movement? If, on the other hand, it is maintained that the movement of the electron is continuous, then there can be no such thing as a given instant in time, as there could be no motion of the electron.

Can any of our ingenious-minded readers suggest an answer to Pte. Caplan's knotty problem?

WILLIAM ANDERSON, of Tonbridge, Kent, writes asking for information about bacteria, and whether any new methods of destroying them have recently been discovered.

Bacteria are distinguished for their infinite smallness and their amazing capacity for reproducing themselves, which qualities, in those that produce disease, make them man's most formidable enemies. As many as three million of the smallest bacteria can lurk beneath the tiniest speck the human eye can see; while some species multiply so rapidly that each bacterium divides into two every twenty minutes and becomes a grandfather within the hour.

But this terrific rate of multiplication only serves to bring about the bacteria's own doom. For there is not enough food to satisfy all of them, and only one in a

*Through Space And Time He Travelled To A World That Had
Been, To Find Bizarre Adventure Among The Eternal Ones
Of Luna*



THE MOON ERA

By JACK WILLIAMSON

Author of *The Metal Man*, *The Alien Intelligence*,
etc.

CHAPTER I

THE MAD ADVENTURE

WE WERE seated at dinner in the dining-room of my uncle's Long Island mansion. There was glistening silver plate, and the meal had been served with a formality to which I was unaccustomed. I was ill at ease, though my uncle and I sat alone at the table. The business of eating, without committing an egregious blunder before the several servants, took all of my attention.

It was the first time I had ever seen my uncle, Enfield Conway. He was a tall man, stiffly erect, dressed severely in black. His face, though lean, was not emaciated, as is usual at his age of seventy years. His hair, though almost perfectly white, was abundant, and parted on the side. His eyes were blue, and strong; he wore no glasses.

A uniformed chauffeur had met me at the station, that afternoon. The butler had sent an entirely unnecessary valet to my luxurious room. I had not met my uncle until he came down to the dining-room.

"I suppose you are wondering why I sent for you," he said in his precise manner, when the servants had carried away the last course, leaving cigars, and a bottle of mineral water for him.

I nodded. I had been an instructor of history in a small high school in Texas, where his telegram had reached me. There had been no explanation; merely a summons to Long Island.

"You are aware that some of my patents have been quite profitable."

Again I nodded. "The evidence surrounds me."

"Stephen, my fortune amounts to upwards of three and a half million dollars. You can, if you wish, earn that fortune. And fifty thousand a year while I live."

I pushed back the chair and rose to my feet in my excitement. Such riches were beyond my dreams! I felt myself trembling.

"Why—why, of course," I stammered. "I'll do anything you say, to earn that! It would mean—"

"Wait," he said, looking at me steadily. "You don't know yet what I require. Don't commit yourself too soon."

"What is it?" I asked in a quavering voice.

"Stephen, I have been working in my private laboratory, here, for eleven years. I have been building a machine. All my brains have gone into that machine, to say nothing of hundreds of thousands of dollars, and the best efforts of skilled engineers and mechanics. But now that it is finished, the engineers who worked on it with me refuse to try the machine. They insist that it is dangerous.

"And I am too old to make the test. It will take a young man, with strength, endurance, and courage. You are young, Stephen. You look vigorous enough. I suppose your health is good? A sound heart? That's the main thing."

"I think so," I told him. "I've been coaching the Midland football team, and it isn't many years since I was playing football myself."

"And you have no dependants?"

"None. But what is this machine?"

"I will show you. Come with me."

He rose, agilely enough for one of his years, and led the way from the long room, through several other magnificent rooms of the big house, and out into the wide, landscaped grounds, beautiful and still in the moonlight. I followed silently. My brain was confusion, a whirl of mad thoughts. All this wealth which surrounded me might be my own!

I cared nothing for luxury, for money itself, but the fortune would mean freedom from the thankless toil of pedagogy—books, travel. I could see with my own eyes the scenes of history's most dramatic moments, finance research expeditions of my own, delve with my own hands for the secrets of Egypt's sands, uncover the age-old enigmas of ruined mounds that once were proud cities of the East. . . .

We approached a rough building, resembling an airplane hangar, of galvanised iron which glistened like silver in the rays of the full Moon. Without speaking, my uncle took a key from his pocket and unlocked the heavy padlock on the door. He entered the building, switching on the electric lights.

"Come in," he said. "Here it is. I'll explain it as well as I can."

FOllowing him through the narrow doorway, I saw two huge disks of copper with a cylinder of bright, chromium-plated metal between

Although the Moon is now cold and barren, there was a time, in the distant past, when it was warm and fertile, and able to sustain life. Weird monsters may have roamed its fantastic forests, and a strange civilisation, have been built up by creatures quite different from the two-legged mammals which were destined to inherit the Earth, its mother, where Life had scarce begun. One of America's most famous writers of science fiction, for more of whose work we have had many requests since we published "The Metal Man," gives us now a fascinating story set against the colourful background of the Moon when it was young.

them. The lower of the massive disks rested on the concrete floor: its diameter was about twenty feet. The cylinder above it was about sixteen feet in diameter and eight feet high, and the copper disk above was the same size as the lower one. Small, round windows stared from the riveted metal plates forming the cylinder.

My uncle walked to the other side of this strange-looking mechanism. He turned a projecting knob, and an oval door, four feet high, swung inward in the curving wall. Four inches thick, of plated steel, it fitted very tightly against cushions of rubber. My uncle climbed through the door, into the dark interior. I followed, with a growing sense of wonder and excitement. I groped towards him in the darkness; then I heard the click of a switch, and lights flashed on within the round chamber.

I gazed about me in astonishment. Walls, floor and ceiling were covered with soft, white fibre, and the little room was crowded with apparatus. Clamped against one wall was a row of tall, steel oxygen flasks; across the room was a bank of storage batteries. The walls were hung with numerous instruments, all fixed neatly in place: sextants, compasses, pressure gauges, and many others whose functions were not apparent. There were cooking utensils, an automatic pistol,

cameras, telescopes and binoculars.

In the centre of the room stood a table or cabinet, with switches, dials and levers upon its top. A heavy cable, apparently of aluminium, ran from it to the ceiling. I was gazing about in bewilderment.

"I don't understand all this—" I began.

"Naturally," said my uncle. "It is quite a novel invention. Even the engineers who built it did not understand it. I confess that the theory of it is yet beyond me, but what happens is quite simple."

"Eleven years ago, I discovered a new phenomenon. I happened to charge two parallel copper plates, whose distances apart had a certain very definite relation to their combined masses, with a high tension current at a certain frequency; and they were in some way—how, I do not pretend to understand—cut out of the Earth's gravitational field, insulated from gravity. The effect extended to any object placed between them, and by a slight variation of the current's strength, I was able to increase the repulsion until the plates pulled upward with a force approximately equal to their own weight.

"My efforts to discover the reason for this phenomenon—it is referred to in my notes as the Conway Effect—have not been successful, but I have built this machine to make a practical application of it. Now that it is finished, the four engineers who helped design it have deserted. They refused to assist with any trials."

"Why?" I asked.

"Muller, who had the construction in charge, somehow came to the conclusion that the suspension or reversal of gravity was due to motion in a fourth dimension. He claimed that he had obtained experimental proof of his theory by building models of the device, setting the dials, and causing them to vanish. I would have none of it, but the other men seemed to accept his ideas. At any rate, they refused with him to have any part in the tests. They thought they would vanish, like Muller says his models did, and not come back."

"The thing is supposed to rise above the ground?" I asked.

"Quite so." My uncle smiled. "When the force of gravitation is merely suspended, it should fly off the Earth at a

tangent, due to the diurnal rotation. This initial velocity, which in these latitudes amounts to considerably less than one thousand miles per hour, can be built up at will by reversing gravitation and falling away from the Earth."

"Falling away from the Earth!" I was staggered. "And where is one to fall?"

"This machine was designed for a trip to the Moon. At the beginning of the voyage, gravitation will be merely cut out, allowing the machine to fly off on a tangent towards the point of intersection with the Moon's orbit. Once safely beyond the atmosphere, repulsion can be used to build up the acceleration. Within the gravitational sphere of the Moon, positive gravitation can be utilised further to increase the speed, and reversed gravitation to retard the velocity, to make possible a safe landing. The return will be made in the same manner."

I WAS staring at him blankly. A trip to the Moon seemed insane, beyond all reason, especially for a Professor of History, with only a modicum of scientific knowledge. And it must be dangerous, if those engineers. . . . But three million dollars—what dangers would I not face for such a fortune?

"Everything has been done," he went on, "to insure the comfort and safety of the passenger. The walls are insulated with a fibre composition especially worked out to afford protection from the cold of space, and from the unshielded radiations of the Sun. The steel armour is strong enough, not only to hold the necessary air pressure, but to stop any ordinary meteoric particles."

"You notice the oxygen cylinders, for maintaining that essential element in the air. There is automatic apparatus for purifying it. It is pumped through caustic soda to absorb the carbon dioxide, and through refrigerator tubes to condense the excess moisture. The batteries, besides energising the plates, are amply powerful to supply lights and heat for cooking."

"That, I believe, fairly outlines the machine and the projected voyage. Now it is up to you. Take time to consider it fully. Ask me any questions you wish."

He sat down deliberately in the large, cushioned chair beside the central table,

which was evidently intended for the machine's operator, and stared at me alertly with calm, blue eyes. My knees felt weak; and I wanted to sit down also, but I was so agitated that I kept striding back and forth across the resilient, white floor.

Three millions! It would mean so much. I should have to economise no longer; could spend years—all my life, if I wished—abroad, visit the tombs of Egypt, and the sand-covered cities of the Gobi. There was my theory that mankind had originated in South Africa; all those puzzles that I longed to be able to study. Stonehenge, Angkor, Easter Island. . . .

But the adventure seemed madness. A voyage to the Moon, in a craft condemned by the very engineers that had built it! To be hurled away from the Earth at a speed no man had attained before, to face the unknown perils of space, dangers beyond guessing: hurtling meteors, the all-penetrating cosmic rays, the burning heat of the Sun, and the absolute zero. What, beyond speculation and theory, did men know of space? I was no astronomer; how was I to cope with the emergencies that might arise?

"How long will it take?" I demanded, suddenly.

My uncle smiled. "The duration of the voyage depends upon the speed you make, of course. A week each way is a conservative estimate. And perhaps two or three days on the Moon, to take notes and photographs. Move around a little, if possible; land in several different places. There is oxygen and concentrated food to last six months, but a fortnight should see you nearly back. I'll go over the charts and calculations with you."

"Can I leave the machine while I'm on the Moon?"

"No. No atmosphere. It would be too hot in the day, too cold at night. Of course, an insulated suit and oxygen-mask might be devised, but I haven't worked at that. You will be expected just to take a few pictures and describe what you have seen."

I continued to pace the floor, pausing at times to examine some piece of apparatus. How would it feel, I wondered, to be shut up in here? To drift in space, far from the world of my birth, alone, in silence,

entombed? Would it not drive me mad? My uncle rose from the chair.

"Sleep on it, Stephen," he advised. "See how you feel about it in the morning, or take longer if you wish."

He switched off the light in the machine and led the way out, into the shed, thence into the brilliant moonlight that flooded the wide, magnificent grounds about the great house. As he was locking the shed, I gazed up at the Moon, a broad, bright disc, silvery and mottled, extinguishing the stars with argent splendour. And all at once it came over me—the desire to penetrate the enigmatic mystery of this companion world that men have watched since the race began.

What an adventure! To be the first human being to tread this silver planet, to solve its age-old riddles. Why think of Angkor or Stonehenge, of Luxor and Karnak, when I might win the secrets of the Moon? Even if death came, what did it matter against the call of this adventure? Many men would trade their lives eagerly for such a chance.

Suddenly, I was strong. All weakness had left me; all fear and doubt. Now, vast energy filled me, and I was conscious of an extraordinary elation. Swiftly, I turned to my uncle.

"Let's go back," I said. "Show me as much about it as you can—to-night. I am going."

He gripped my hand tightly, without a word, before he turned back to the lock.

CHAPTER II

TOWARDS THE MOON

IT WAS in the second week, after that sudden decision came to me, that I started. At the end, my uncle became a little alarmed, and tried to persuade me to stay longer, to make more elaborate preparations. I believe that he was secretly growing fond of me, despite his brusque, precise manner, and I think he took the opinion of his engineers seriously enough to consider my return very problematical. But I could see no reason for further delay.

The operation of the machine was quite simple; he had explained it fully to me.

There was a switch to close to send current from the batteries through the coils that raised it to the potential necessary to energise the copper discs, and a large rheostat that controlled the force, from a slight decrease in gravity to a complete reversal. The auxiliary apparatus, for control of temperature and atmosphere, was largely automatic, and not beyond my limited mechanical comprehension. I was certain that I should be able to make any necessary repairs or adjustments.

Now, I was filled with the greatest haste to undertake the adventure. No doubt or hesitation had troubled me since the moment of the decision. I felt only a longing to be sweeping away from the Earth, to view scenes that the ages had kept hidden from human eyes, and to tread the world that has always been the symbol of the unattainable.

My uncle recalled one of his engineers, a sallow young fellow named Gorton. On the second morning, to supplement my uncle's instruction, he went over the machine again, showing me the function of every part. Before he left me, he warned me,

"If you are idiot enough to get in that contraption and turn on the power," he told me; "you'll never come back. Muller said so; and he proved it. So long as the batteries and coils are outside the field of force between the plates, the plates act according to schedule and rise up in the air. But Muller made self-contained models, with the battery and all inside. And they didn't rise up. They vanished, just like that!" He snapped his fingers.

"Muller" said the things moved along another dimension, right out of this world. And he ought to know—string of degrees a mile long. No telling what sort of hell you'll blunder into."

I thanked the man, but his warnings only increased my eagerness. I was about to tear aside the veil of the unknown. What if I did blunder into new worlds? Might they not yield rewards of knowledge richer than those of the barren Moon? I might be a new Columbus, a greater Balboa. . . .

I slept a few hours in the afternoon, after Gorton had gone. I felt no need of slumber, but my uncle insisted upon it; and I fell soundly asleep almost as I lay down. At sunset, we went again to the

shed in which the machine was housed. My uncle started a motor which opened the roof like a pair of enormous doors, by means of pulleys and cables, and the red light of the evening sky streamed down upon the machine. We made a final inspection of all the apparatus, and my uncle explained once more the charts and instruments that I was to use in navigating space. Finally, he questioned me for an hour, making me explain the various parts of the machine and correcting any error I made.

I was not to start until nearly midnight, so we returned to the house, where an elaborate dinner was waiting. I ate almost absently, hardly noticing the servants of whom I had been so conscious upon my arrival. My uncle was full of conversation, talking of his own life, and asking me many questions about my father, whom he had seen last when they were boys. My mind was upon the adventure before me, and I could answer him only disjointedly; but I was aware that he had taken a real liking for me, and was not surprised at his request that I should postpone the departure.

At last we went back, down to the shed. The white Moon was high, and its soft radiance bathed the gleaming machine, through the opened roof. I stared up at its bright disk. Was it possible that within a week I should be there, looking back upon the Earth? It seemed madness, but the gladness of glorious adventure.

Without hesitating I clambered through the oval door. A last time my uncle wrung my hand. He had tears in his eyes, and his voice was a little husky.

"I want you to come back, Stephen."

SWINGING the door into its cushioned seat upon massive hinges, I tightened the screws that were to hold it. A final glance round the white walls satisfied me that all was in order. The chronometer, ticking steadily, told me that the moment had come.

My uncle's anxious face was pressed against one of the ports. I smiled at him and waved. His hand moved across the port. He had left the shed. I dropped into the big chair beside the table, and reached for the switch. With my fingers upon the button, I hesitated the merest

second. Was there anything I had neglected? Was I ready to die, if I must?

The deep, vibrant hum of the coils beneath the table answered the pressure of my finger. I took the handle of the rheostat and swung it to the zero mark, where gravitation was cut off completely. The sensation was exactly as if my chair, and the floor, had fallen from under me: the same sensation one feels when an elevator drops very abruptly. Almost, I floated out of the chair, and I had to grasp at the arms to stay within it.

For a few moments, I experienced a nauseating vertigo. The white-walled room seemed to spin about me, to drop away endlessly beneath me. Sick, helpless, miserable, I clung weakly to the great chair. Falling . . . falling . . . falling . . . Would I never stop?

Then I realised, with relief, that the sensation was due merely to the absence of gravity's familiar pull. The machine worked! My last, lingering doubt was killed; a strange elation filled me. I was falling away from the Earth—flying. The thought seemed to work a miraculous change in my feelings. The dreadful, dizzy nausea gave way to a feeling of exhilaration, of lightness. I was filled with a sense of power and well-being, such as I had never before experienced.

I left the great chair, and floated rather than walked to one of the windows. Already, I was high in the air; so high that the moonlit Earth was a dim and misty plain below me. I could see many lights; the westward sky was aglow, above New York, but I was quite unable to pick out the lights of my uncle's mansion, whence the machine had risen through the opened roof of the shed. Now, it was driving out into space, as it had been planned to do. The adventure was succeeding.

As I watched, the Earth sank visibly, until it was a great concave bowl of misty silver. It expanded slowly, as the minutes went by, and became suddenly convex; a huge, dark sphere, washed with pale-grey light. Presently, when the dials showed that I was beyond the faintest trace of atmosphere, I returned to the table and increased the power, moving the rheostat to the last contact. I looked at charts and chronometer. According to my uncle's calculations, four hours at this accelera-

tion were required before the controls were set again.

I returned to the window, and stared in amazement at the Earth, that I had left vast and silver-grey and motionless. It was spinning madly—backward! I was now high enough to see a tremendous section of the globe, and the continents seemed to race beneath me: Asia, North America, Europe, then Asia again. It was madness! The Earth revolving in a few seconds, instead of twenty-four hours—and turning backward! But I could not doubt my eyes. Even as I watched, the planet seemed to spin faster and faster, until the continental outlines grew dim and blurred.

I looked away from the Earth, in bewilderment. The firmament was very black, and the stars were creeping about it with visible motions. Then the Sun came into view, plunging across the sky like a flaming comet. It swung supernally across my field of vision, and vanished; appeared again, and again, moving ever more swiftly.

What was the meaning of such an apparent revolution of the Sun about the sky? It meant, I knew, that Earth and Moon had swung about the star; that a year had passed. But were years going by as fast as my chronometer ticked off the seconds? Another strange thing: I could recognise the constellations of the Zodiac, through which the Sun was plunging, and it was going backward, even as the Earth was spinning.

I moved to another window, searching for the Moon, my goal. It hung still, among the creeping stars, but in its light there was a flicker, far more rapid than the flashing of the Sun across the wild heavens. I wondered; then I knew that I saw the waxing and waning of the Moon, and soon the months were passing so swiftly that the flicker became a grey blur.

THE flashing past of the Sun became more frequent, until it was a strange belt of flame about the heavens, in which the stars crept and moved like living things. It was a universe gone mad, suns and planets spinning helpless in the might of a cosmic storm! The machine from which I watched seemed the only sane thing in a runaway



THE MOON HUNG STILL AMONG THE CREEPING STARS, BUT IN ITS LIGHT WAS A FLICKER

cosmos. Then reason came to my rescue. Earth, Moon, Sun and stars could not all be mad. The trouble was with *myself*. My perceptions had changed. The machine. . . .

Slowly it came to me, until I knew that I had grasped the truth. Time—true time—is measured by the movements of the heavenly bodies. Our day is the time of Earth's rotation on its axis; our year, the period of its revolution about the Sun. Those intervals had become so brief, in my perception, that they were indistinguishable, and countless years were spinning past while I hung still in space.

Incredible! But the conclusion was inevitable. And the apparent motion of Earth and Sun had been backward. That meant—and the thought was staggering—that the ages were reeling backward; that I was plunging at an incalculable rate into the past.

Vaguely I recalled a lecture I had heard, upon the nature of Space and Time. The subject had fascinated me, though I had only a layman's knowledge of it. The lecturer had defined our universe in terms

of Space-Time—a four-dimensional "continuum." Time was a fourth dimension, he had said; an extension as real as the three of what we call Space, and not completely distinguishable from them. A direction in which motion would carry one into the past, or into the future.

All memory, he had said, is a groping back along this dimension, at right-angles to each of the three of Space. Dreams, vivid memories, carry one's consciousness in reality back along this dimension, until the body, swept relentlessly along the stream of Time, drags it forward again.

Then I recalled what my uncle had told me, of the refusal of his engineers to try out the machine. I recalled Gorton's warning. Muller, they both had told me, had declared the machine would move along a fourth dimension, out of our world. Now, I knew that Muller was right. His models had vanished because they had been carried into the past; and now I was moving along that fourth dimension, the dimension of Time—and very swiftly, for the years went by too fast for counting.

The reversal of gravitation, it occurred to me, must have something to do with this change of direction in Time. But I am not a scientist, and I can explain the Conway Effect no better than my uncle, for all the wonders it has brought into my life.

At first, it was horribly strange and terrifying. But after I had thought out my explanation of the mad antics of the Earth and Sun and Moon, and of the hurrying stars, I was no longer frightened, and I gazed out through my small, round ports at the melting firmament with some degree of equanimity. I continued to watch the charts my uncle had prepared, and to make adjustments of the rheostat when they were indicated by the chronometer; and presently, feeling hungry, I toasted biscuits on the electric stove, cut off a generous slice of a cheese that I found in the supplies, opened a vacuum-bottle of steaming chocolate, and made a hearty and satisfying meal.

When I had finished, I resumed my survey of the space about me. There were the crawling stars, already forming themselves into constellations most of which were unfamiliar, and the Sun, a broad bolt of burning gold that girdled the firma-

ment, counting off the years too swiftly for the eye to follow. The Earth was a huge, grey sphere, spinning so swiftly behind me that no detail was visible; and even the Moon, hanging in space ahead, was turning slowly. No longer was the same, familiar face towards me, and towards the Earth. Already I had reached a point in past Time at which the Moon was turning on its axis more rapidly than it revolved about its parent, and the tidal drag had not yet stopped its rotation.

And if already the Moon was turning, what would it be like when I reached it? Hurting into the past as I was, would I see oceans cover its dry sea-floors? Would an atmosphere soften the harsh outlines of its rugged mountains, and vegetation spread over its plains? Was I to witness the rejuvenation of an aged world? It seemed fantastic; but it was taking place. The speed of rotation slowly increased, as I watched.

CHAPTER III

THE JUNGLES OF LUNA

THE hours slipped past, and I grew heavy with sleep. The two days before my departure had not been easy. I had worked day and night to familiarise myself with the machine's operation, and the nervous strain had been exhausting. The amazing incidents of the voyage had kept me tense, and sapped my strength.

The chart told me that no change was to be made in the controls, for many hours. I inspected the gauges which showed the condition of the atmosphere in the chamber. Oxygen content, humidity, temperature, were correct; the air smelled sweet and clean. I completed the rounds, found everything in order, then adjusted the big chair to a reclining position and threw myself upon it. For hours I slept, waking at intervals to make a tour of inspection.

Sometimes, in the days that followed, I wondered if I should be able to go back; if I could reverse the flight of the machine back through time to the starting-point. If I followed the directions on the operating chart, would I be flung forward

through the ages, back to my own era? I wondered; but it was not long before I abandoned all such speculation. A strange, unique experience was mine, and glorious adventure, for which death was not too high a price to pay.

It did not even occur to me to attempt to turn back Earthward, when I found that I was going back through time into the past; and I did not have sufficient control of the machine to have done so, had I wished. Dependent upon the chart for navigating instructions, I could not have plotted a return path from the midway point, and I knew no way to stop my flight except by using the repulsion of the Moon's reversed gravitation.

My flight lasted six days, by the chronometer. Long before the end, the Moon was revolving at great speed, and its outlines had become hazy, so that I knew it had an atmosphere. I followed the charted directions, until I was in the upper layers of the envelope of air. The Moon's surface was sliding rapidly beneath me, and the atmosphere with it, due to the swift rotation of the satellite; consequently, fierce winds screamed about the machine.

I hung in the atmosphere, using just enough power to balance the Moon's comparatively feeble gravitational pull, until the pressure of that rushing wind swept me with it. The mistily indistinct surface slowed, became motionless beneath me; and with power decreased still further, I settled slowly, watching alertly through the ports. A towering, crimson mountain loomed above the mists below. I dropped towards it, increasing the power a little. At last I hovered motionless above a narrow, irregular plateau, that seemed covered with soft, scarlet moss.

Slowly, I cut down the power. With hardly a shock, the machine settled in the moss. I was on the Moon, the first of my kind to set foot upon an alien planet! With the power cut off entirely, I ran to the ports and peered out eagerly.

The moonscape was as strange a sight as man had ever seen. The thick, red moss on which the machine rested looked soft as a Persian rug. A foot deep it was, its crimson fibres closely intertwined. In an unbroken carpet, it covered the sloping plateau upon which I had landed, and extended almost to the top of the rugged peak to northward. To the south and west

lay a great valley, almost level, miles across. Beyond it rose a dim range of green hills, their rugged summits bare and black. A broad river, glinting white in the distance, flowed down the valley from the north-west into the south: there must be an ocean in that direction.

Strange jungle covered that valley, below the red moss of the mountains. Masses of green, and walls of yellow lining the wide, smooth river; dense forests of gigantic plants, weird and grotesque, growing taller and more luxuriant than any plants could on Earth because of a much slighter gravitation. Equally strange was the sky, darker than on Earth, perhaps because the atmosphere was thinner. A deep, pure, living blue, a blue that was almost violet, no cloud marred its liquid splendour.

The Sun hung in the glorious, eastward sky, larger than I had known it, and whiter, a supernal sphere of pure white flame; and low in the west was an amazing sight, a huge globe of milky light, many times the diameter of the Sun. I marvelled at it, and realised that it was—the Earth! The Earth, young as Venus had been in my own time, and like Venus, shrouded in white, unbroken clouds. Were the rocks still glowing beneath those clouds, I wondered, or had life begun—the life of my farthest progenitors?

Would I ever see my native land again, upon that resplendent, cloud-wreathed planet? Would the machine carry me back into the future, when I attempted to return, or would it hurl me farther into the past, to plunge, flaming, into that newborn, incandescent world? But that question I put resolutely from my mind. A new world was before me; a globe strange and unexplored. Why worry about my return to the old?

MY EYES went back to the valley below me, along the banks of the broad river, beneath the majestic range of green mountains. I saw clumps of gold, resembling distant groves of yellow trees, patches of green that looked like meadows of grass, and queer, puzzling uprights of black. I saw things moving; little bright objects, that rose and fell slightly as they flew. Birds? Gigantic insects? Or creatures stranger than either?

Then I saw the balloons, floating above the jungle of the valley. At first I saw only two, hanging side by side, and swaying a little; then three more, beyond. Then I distinguished dozens, scores of them, scattered all over the valley. I strained my eyes at them. Were there intelligent beings here? But what would be the object of hanging balloons above the jungle, by the hundred?

I remembered the powerful prism binoculars hanging on the wall beside me. I seized them, focused them hurriedly, and the weird jungle leaped towards me in the lenses. The things were doubtless balloons: huge spheres of purple, very bright in the sunlight, anchored with long, red cables. Some of them, I estimated, were thirty feet in diameter; some, much smaller. I could make out no baskets, but there seemed to be small, dark masses upon their lower sides, to which the red ropes were attached.

I left them and surveyed the jungle again. A mass of the yellow vegetation, filled the lenses; a dense tangle of slender stems, armed with terrible rows of long, bayonet-like thorns. A wall of cruel spikes, impenetrable. I found a patch of green, a mass of soft, feathery foliage. A sort of creeper, it seemed, covering rocks and other vegetation; though it did not mingle with the yellow scrub. Enormous, brilliantly white, bell-shaped blooms were open upon it, here and there.

A flying thing darted across my vision. It looked like a gigantic moth, frail wings dusted with silver. Then I made out a little cluster of curious plants: black, smooth, upright stalks, devoid of leaf or branch. The tallest looked a foot in diameter, a score in height, and was crowned with a gorgeous, red bloom. I noticed that no other vegetation grew near any of them. About each was a little cleared circle. Had they been cultivated?

Hours went by as I stared out through the ports at this fascinating and bewildering moonscape. Then I recalled the pictures that my uncle had requested me to make, and for two or three hours I was busy with the cameras. I made exposures in all directions, with ordinary and telescopic lenses; I photographed the scene with colour filters, and finally, I made motion-pictures, swinging the camera to take a panoramic view.

It was almost sunset when I had done. It seemed strange that the day was passing so swiftly, until I looked at the chronometer, found that it was not keeping pace with the Sun, and decided that the period of rotation must be rather less than twenty-four hours. I later found it to be about eighteen hours, divided into days and nights of almost equal length.

Darkness came very swiftly after sunset, due to the "comparatively small size and quick rotation of the Moon. The stars burst out splendidly through the clear air, in constellations utterly strange; but a heavy dew was soon obscuring the ports, so that I could no longer see their full glory. As I later discovered, clouds almost never formed in this light atmosphere, and the entire precipitation was in the form of dew, which, however, was amazingly abundant. The tiny droplets on the glass were soon running in streams.

After a few hours, a huge and glorious, snow-white sphere rose in the east—the Earth, wondrous in size and brilliance. The weird jungle was visible in its silvery radiance almost as in daylight. Then, suddenly, I realised that I was tired, and very sleepy. I threw myself down upon the reclining chair, and fell into immediate oblivion.

TH E white Sun was high when I awoke. I found myself refreshed, hungry, and conscious of a great need for physical exercise. Accustomed to an active life, I had been shut up in that little, round room for seven days. I felt that I must move, breathe fresh air. Could I leave the machine? My uncle had told me that it would be impossible because of lack of atmosphere, but there was plainly air about me, on this young Moon. Would it be breathable?

I pondered the question. The Moon, I knew, was formed of materials thrown off the cooling Earth. Then, should its atmosphere not contain the same elements as that of Earth? I decided to try it; to open the door slightly, sniff experimentally, and close it immediately if there seemed anything wrong. I loosened the screws that held it, and tried to pull it open, but it seemed fastened immovably. In vain I tugged at it, looked to see if I had left a screw, or if something was amiss with the hinges. It refused to budge.

For minutes I was baffled. The explanation came to me suddenly. The pressure of the atmosphere outside was much less than that within the machine. Since the door opened inward, it was the unbalanced pressure upon it that held it. I found the valve which freed the chamber of any dangerous excess of oxygen that might escape, and spun it open. The air hissed out noisily.

I sat down in the chair to wait. At first, I felt no symptoms of the lessening pressure; then I was conscious of a sensation of lightness, of exhilaration. I noticed that I was breathing faster, my temples throbbed, and for a few minutes I felt a dull ache in my lungs. But the sensations did not become unduly alarming, and I left the valve open. The hissing sound gradually decreased, and finally died away completely.

I rose and went to the door, feeling a painful shortness of breath as I moved. The heavy door came open quite easily, now. I sniffed the air outside. It bore a strange, heavy fragrance which must have been carried from the jungle in the valley; and I found it oddly stimulating—it must have been richer in oxygen than the air in the machine. With the door flung wide, I breathed deeply of it.

At first I had thought merely of strolling up and down for a while, in the moss outside the machine. But now I decided, quite suddenly, to hike to the lower edge of the red-carpeted plateau, perhaps a mile away, and look at the edge of the jungle. I looked about for any equipment that I might take: a light camera, in case I should see something worth photographing; the binoculars; a vacuum-bottle full of water, and a little food, so that I should not have to hasten back to eat.

Finally, I took down the automatic pistol on the wall, a .45 Colt. It must have been included as a way of merciful escape, in case some failure made life in the machine's compartment unendurable. There was only one box of ammunition—fifty cartridges. I loaded the weapon, and slipped the remainder into my pocket.

Gathering up the other articles, I scrambled through the oval door and stood upon the rim of the lower copper disk, drawing the door to behind me, and fastening it; then stepped off, upon the Moon. The thick, fibrous moss yielded

under my foot, surprisingly. I stumbled and fell into its soft, scarlet pile; and in scrambling to my feet, I forgot the lesser gravity of the Moon, and threw myself into the air, tumbling once more into the yielding moss.

In a few minutes, however, I had mastered the art of walking under the new conditions, so that I could stride along with some confidence, going clear of the ground at every step as if I wore seven-league boots. Once I essayed a leap, which carried me twenty feet into the air and twice as far forward. It seemed that I hung in the air an unconscionable time, and floated down very slowly. But I was helpless, aloft, sprawling about, unable to get my feet beneath me. I came down on my shoulder, and would have been painfully bruised had it not been for the thick moss.

I realised that my strength upon the Moon was quite out of proportion to my weight of one hundred and eighty pounds. Here, my weight was only thirty pounds, and it would be some time, I supposed, before I could learn the exact force required to produce the result I desired. Actually, I adapted myself to these new conditions in a surprisingly short period. For a time I suffered a painful shortness of the breath, especially after violent exertion, but soon I was accustomed to the lighter air as well as the lesser gravitation.

CHAPTER IV

THE BALLOON MONSTER

IN HALF an hour I had arrived at the edge of the red plateau. A steep slope fell before me to the edge of the jungle, perhaps two-thirds of a mile farther below; a slope carpeted with the thick fibre of the crimson moss. It was a weird scene. The clear, cerulean sky, richly blue, with the huge, white globe of the hot Earth setting beyond the farthest range of green mountains. The wide valley, with the broad, silvery stream winding among golden forests and patches of green. The purple balloons, floating hither and yon, swaying on the red cables that anchored them above the jungle.

I seated myself on the moss, where I

could overlook that valley of eldritch wonder. I remained there for some time, staring out across it, while I ate most of the food that I had brought and halfemptied the bottle of water. Then I decided to descend to the edge of the jungle. The Sun was just at the meridian: the whole of the short afternoon of four hours and a half was yet before me: I had ample time, I thought, to go down the slope to the edge of the jungle and return before the sudden nightfall.

I had no fear of getting lost, for the glittering armour of the machine was visible over the whole plateau, and the jagged, triple peak to northward of it was a landmark which should be visible over the whole region. Nor, while I realised that the jungle might harbour hostile life, did I fear attack. I intended to be cautious, and not penetrate beyond the edge of the jungle; and I had the automatic, which, I was certain, would give me greater power of destruction than any animal on the planet. Finally, in case of difficulty, I could rely upon the superior strength of my muscles, which must be far stronger in proportion to my weight than those of any native creatures.

Progress was easy on the long, mossy incline. My skill at travelling under Lunar conditions of gravity was increasing with practice: I found a way of moving by deliberate, measured leaps, each carrying me twenty feet or more. In a few minutes, I was approaching the edge of the jungle; but that was not so sharp a line as it had appeared from above. The first vegetation other than the moss was scattered clumps of a plant resembling the cactus of my native South-West, thick, fleshy disks growing one upon another, edge to edge. They were not green, however, but of a curious pink, flesh-like colour. They bore no thorns, but were studded with little, black protuberances or knobs, of doubtful function.

The plants I first approached were small, and appeared stunted. The lower clumps seemed larger, and more thickly spaced. I paused to examine one, walked around it, and photographed it from several angles. Then I ventured to touch it with my foot. Several of the little, black knobs broke; they proved to be thin-walled vesicles, containing a dark liquid. An overpowering and extremely un-

pleasant odour assailed me, and I retreated hastily.

A hundred yards farther on, I came upon the green creepers, thick stems coiled like endless serpents over the ground, with innumerable fronds rising from them, terminating in feathery sprays of green. Here and there were huge, white blooms, nearly six feet across, resembling great bells of burnished silver. From them, evidently, came the heavy perfume that I had noticed upon opening the door of the machine.

The creepers formed an unbroken mass of green, several feet deep, impossible to penetrate without crushing the delicate foliage. I decided to go no farther in that direction. The creeper might have such means of protection as the malodorous sacs of the fleshy plants above, or dangerous creatures, counterparts of Terrene snakes, might lie concealed in the dense foliage.

FOR some distance I followed along the edge of the mass of creeper, pausing at intervals to make photographs. I was approaching a great thicket of the yellow scrub, a wall of inch-thick stems armed with dagger-like thorns, all of one hundred feet high, and interlaced so closely that a rat would have had difficulty in moving through them without impaling himself upon a needle-sharp spike.

I paused to watch one of the purple balloons, which seemed to be swaying towards me, increasing the length of the red cable which anchored it to the jungle behind. A strange thing, that huge, purple sphere, tugging at the thin, scarlet string that held it; almost like a thing alive, I thought. Several times I photographed it, but its distance was such that I feared none of the images could be satisfactory. Yet it seemed to be moving in my direction, perhaps carried by some breeze that did not reach the ground, and it would soon be near enough for a good picture.

I studied it closely, trying to see if it had pilot or occupant, but I was unable to settle the point. There was certainly no basket, but black arms or levers seemed to project in a cluster from its lowest part, to manipulate the cables. Nearly an hour I waited, watching it. It moved much closer during that time, until it was almost

directly overhead and only a few hundred feet high. The red cable slanted from it back into the jungle. It seemed to be loose, dragging.

At last I got a picture that satisfied me, and I decided to go on and examine the tangle of yellow thorn-brush at closer range. I had just taken my eyes from the purple balloon, and turned to walk away, when it struck. Before I had gone a step, a red rope whipped about my shoulders, then whirled about my body several times, wrapping me in sticky coils. The cable was about half an inch in diameter, and made of many smaller crimson strands, fastened together with the adhesive stuff that covered it. I recall its appearance very vividly, and the odd, pungent, disagreeable odour of it.

Half a dozen coils were wrapped loosely round me before I realised that anything was amiss. Then they tightened suddenly, dragging me across the red moss upon which I had been standing, towards the edge of the jungle. Looking up in horror, I saw that the rope had been thrown from the purple balloon I had been watching. Now, the black arms which projected from it were working swiftly, coiling the red cable up again—with me caught neatly on the end.

The great sphere was drawn down a little, as my weight came upon it. It seemed to swell; then, having been dragged along until I was directly beneath it, I was lifted clear of the ground. I was filled with unutterable terror, my heart beating swiftly, and I felt endowed with terrific strength. Furiously I writhed in my gluey bonds, as I struggled desperately to break the thin, red strands. But the web had been spun to hold just such frightened, struggling animals as myself. It did not break.

Back and forth I swung above the jungle, like a pendulum—with a constantly quickening arc, for the cable was being drawn in rapidly. Once more I looked upward, and saw a sight to freeze me in dreadful horror. The whole balloon was a living thing! I saw its two terrible eyes, aflame with evil, staring at me from many bright facets. The black limbs I had seen were its legs, growing in a cluster beneath its body, and now furiously busy coiling up the cable that it had spun, spider-like, to catch me. I saw long

jaws, black and hideously fanged, drooling foul saliva, and a rapiers-thin, pointed snout, meant for sucking body-juices.

The huge, purple sphere was a muscular sac, which must have been filled with some light gas generated in the body of the creature. The frightful thing floated above the jungle, out of harm's way, riding free upon the wind, or anchored with its red web, lassoing its prey and hauling it up to feast hideously in the air.

For a moment I was petrified, dazed and helpless with horror of that thin snout, with black-fanged jaws behind it. Then fear bred superhuman strength in me. I got my arms free, dragging them from beneath the sticky coils. I reached above my head, seized the red cable in both hands, and tried to break it between them. But it refused to part, despite my fiercest efforts.

ONLY then did I recall the pistol in my pocket. If I could reach it in time, I might be able to kill the monster, and the gas should escape through the riddled sac, letting me back to the surface. I was already so high above the ground that the fall would have been dangerous, had I succeeded in my desperate effort to break the web. The viscous stuff on the cable clung to my hands. It took all my strength to tear them loose, but at last they were free, and I fumbled hurriedly for the gun.

A red strand was across the pocket in which I carried the weapon. I tore at it, managed to shift it, and it adhered to my fingers again. I wrenched them loose, snatched out the automatic; it touched the gluey rope, and stuck fast. I dragged it free, moved the safety-catch with sticky fingers, and raised it above my head.

Though it had been seconds only since I was snatched up, already I had been lifted midway to the dreadful, living balloon. I glanced downward: the distance was appalling. I noticed that the balloon was still drifting, so that I hung over a thicket of the yellow scrub. Then I began shooting at the monster. It was difficult to aim, because of the regular jerks as the ugly, black limbs hauled in the cable, but I held the gun with both hands and fired deliberately, very carefully.

The first shot seemed to have no effect.

At the second, I heard a shrill, deafening scream, and saw that one of the black limbs was hanging limp. I aimed at the many-faceted eyes. Though I had no knowledge of the creature's anatomy, I supposed that its highest nervous centres should be near them; and my third shot hit one. A great blob of transparent jelly burst through the faceted surface, and the thing screamed horribly again, but the black arms still worked furiously, hauling me up.

I felt a violent upward jerk, stronger than the regular pulls that had been raising me. In a moment, I saw the reason. The creature had released the long anchoring cable which had held it to the jungle, and we were plunging upward, the ground spinning away below. My next shot seemed to take no effect, but at the fifth the black limbs twitched convulsively, ceased to haul upon the cable, and hung still in death. But I fired the two cartridges remaining in the gun, to make quite sure.

That was the beginning of a mad aerial voyage. The balloon had shot upward when the anchoring cable was released; and now that it was dead, the muscular sac seemed to expand, so that it rose still faster. Within a few minutes, I must have been two miles above the surface, so that a vast area was visible beneath me; and the convexity of the Moon's surface, which, of course, is much greater than Earth's, was quite apparent.

Far below, between the green mountain ranges, lay the great valley, splotched with blue and yellow, with the river twisting over it, wide and silvery. I could see, too, into other misty valleys beyond the green ranges, and on the curving horizon were more hills, dim and black in the distance. The plateau upon which I had landed was like a crimson-covered table, and I could distinguish upon it a tiny, bright disk, which I knew was the machine that I had left so unwisely.

Though there had been little wind at the surface, it seemed that I rose into a stream of air which was moving rapidly to the north-west, and I was carried swiftly along, the floor of the great valley rolling away below. In a few minutes, the machine was lost to my view; but I kept careful track of the landmarks that passed beneath me, and thought it fortunate that

the wind was driving me up the valley instead of across the green ranges. For I might be able to return to the machine by following down the great river until the triple peak, near which I had left the machine, came into view. Despair came over me, however, at the realisation that I was not likely to traverse so vast a stretch of the unknown jungles of this world without my ignorance of its perils leading me into some fatal blunder.

I thought of climbing the web to that monstrous body, and trying to make a great rent in the purple sac, so that I should fall more swiftly. But I could only have succeeded in entangling myself more thoroughly in the adhesive coils, and I dismissed the scheme when I realised that, if I fell too rapidly, I might be killed upon striking the surface. After the first few minutes of the flight, I could see that the balloon was slowly sinking, as the gas escaped through the bullet-holes in the muscular sac. I could only wait, and fix in my mind the route that I must follow back to the machine.

The wind bore me along so swiftly that within an hour the triple peak had dropped below the curved horizon. But I was still above the great valley, so that I should be able to find my way back by following the river. I wondered if I could build a raft, and float down it with the current.

CHAPTER V

THE MOTHER

THE balloon was carried along less rapidly as it sank lower and lower, but when I neared the surface, it still drifted at considerable speed. Hanging helpless in the end of the red web, I anxiously scanned the jungle into which I was descending. Like that which I had first seen, it was a dense tangle of the thorny, yellow scrub, broken by areas covered with the luxuriant, green creeper. Never would I be able to extricate myself alive, I knew, if I had the misfortune to fall in the thorn-brush; and even if I first touched ground in an open space, the balloon, if the wind continued to blow, would drag me into the spiky scrub before I could free myself from the sticky web.

Could I cut myself free, within a safe distance of the ground, and let the balloon go on without me? It seemed that only thus could I escape being dragged to my death. I knew that I could survive a fall from a considerable height, since the Moon's acceleration of gravity was only about two feet per second—if only I could land on open ground. But how could I cut the web? I was without a knife, and thought madly of trying to bite it in two, but realised it would be as hopeless as attempting to bite through a manila rope.

But I still had the pistol. If I should place the muzzle against the cable and fire, the bullet would plough through it. I reached into my pocket again, and found two cartridges. Though they clung to my sticky fingers, I got them at last into the magazine, and worked the action to throw one into the chamber.

By the time I had finished loading, I was low over an apparently endless expanse of the yellow thorns. Swaying on the end of the web, I swept over the spiky scrub, dropping swiftly. At last I could see the farther edge of the thicket, and a green patch of the great creepers. For a time I hoped I would be carried clear of the thorns; then they seemed suddenly to leap at me. I threw up my arms to shelter my face, still clinging fiercely to the pistol.

In an instant more, I was being dragged through the cruel, yellow spikes. There was a dry, crackling sound as they broke beneath my weight, and a thousand barbs scratched at me, stabbed and cut. Intolerable agony racked me, making me scream. The razor-sharp spikes were tipped with poison, so that the slightest scratch burned like flame, and many of the merciless points went deep into my flesh.

For a moment I hung there in the thorns. Then, as a sudden puff of wind struck it, the balloon leaped into the air, dragging me free. I swung up like a pendulum, and down again, beyond the thorny scrub, over a strip of bare sand separating the thicket from the green creepers.

Bleeding rapidly from my cuts, and suffering unendurable pain from the poison in my wounds, I realised that I could not long remain conscious. In a daze of agony, I seized the red cable above me with one hand, put the muzzle of the automatic against it, and pulled the

trigger. The report was stunning. My right hand, holding the gun, was flung back by the recoil—I should have lost the weapon had it not been glued to my fingers—and the cable was jerked with terrific force, almost breaking my other hand which grasped it. And it parted! I plunged downward, sprawled on the sand.

For a few minutes I remained conscious, as I lay there on the hard, white sand. My clothing had been half stripped from my tortured body by the thorns; I was bleeding freely from several deep cuts, and my whole being throbbed with insufferable pain from the poison in my wounds, as if I had been plunged into a sea of flame. Only my face had escaped the rack of those vicious, yellow barbs.

Weakly, dizzily, I tried to stagger to my feet. But a few coils of the red web still clung about my legs; they tripped me, and I fell forward again upon the white sand. I felt a bitter despair, and a blind, hopeless rage at my insane foolhardiness in leaving the machine and venturing into the edge of the jungle. Until I fell into merciful oblivion. . . .

ACURIOUS sound drew me back into wakefulness; a thin, high-pitched piping, pleasantly melodious. The musical notes beat insistently upon my brain, evidently coming from somewhere quite near me.

On first awakening, I was aware of no bodily sensations. My mind was peculiarly dull and slow, and I was unable to recall where I was. My first impression was that I was lying in bed in my old rooming-place at Midland, and that my alarm clock was ringing, but soon I realised the liquid, piping notes that had disturbed me had no such mundane origin.

I forced open heavy eyes. What startling nightmare was this? A tangle of green creepers, incredibly profuse; a wall of yellow thorns; a scarlet mountain beyond, and purple balloons floating in a rich, blue sky! I tried to sit up, but my body burst into screaming agony, and I sank back. My skin was stiff with dried blood, the deeper wounds were aching, and the poison from the thorns seemed to have stiffened my muscles, so that the slightest motion brought excruciating pain.



A STRANGE AND WONDERFUL BEING GLIDED TOWARDS ME

The melodious pipings had been abruptly silenced at my movement, but now they rose again, behind me. I tried to turn my head. Recollection was returning swiftly: my uncle's telegram; the flight through space and time; my expedition to the jungle's edge, and its horrible sequel. I still lay where I had fallen, on the bare sand below the spiky scrub. I groaned despite myself, with the pain of my stiff body. The thin, musical notes stopped again; and the thing that had made them glided around before me, so that I could see it.

A strange and wonderful being, it was, its body slender, and flexible as an eel. Perhaps five feet long, it was little thicker than my upper arm, and covered with soft, golden down or fur. Part of it was coiled on the sand; its head was lifted two or three feet—a small head, not much bigger than my fist. A tiny mouth, with curved lips, full and red as a woman's; and large eyes, dark and intelligent; deeply violet, yet almost luminous. Somehow they looked human, those eyes, perhaps because they mirrored the human qualities of curiosity and pity; but, apart

from these and the red mouth, the head had no human features. The golden down of the body covered it, too, and on the crown was a plume or crest of brilliant blue.

Strange as the creature was, it yet possessed a certain beauty; a beauty of exquisite proportion, of smooth curves. Curious, wing-like appendages of delicate membrane grew from the sides of the sleek body, just below the head; and now they were extended, stiffened, as if for flight, their snowy surfaces finely veined with scarlet. Other than these white, membranous mantles, the creature had no limbs.

I stared at it. Even at first sight, I did not fear it, though I was helpless. It seemed to have a magnetic power that filled me with quiet confidence, assuring me that it meant only good. The lips pursed themselves, and the thin, piping sounds came from them again. Was the thing speaking to me? I uttered the first words that entered my head.

"Hello! And who are you?"

The thing glided toward me swiftly, its smooth, rounded body leaving a little, twisting track in the white sand. It lowered its head slightly, and laid one of the thin, white mantles across my forehead. The membrane was soft, yet there was an odd firmness in its pressure against my skin. A vital warmth seemed to come from it; it was vibrant with energy, with life.

The pipings came again; and they seemed to stir a vague response in my mind, to call dim thoughts into being. As the same sounds were repeated, again and again, definite questions formed in my mind.

"What are you? How did you come here?"

THROUGH some strange telepathy induced by the pressure of the white mantle upon my brow, I grasped the thoughts behind the creature's piping tones. It was a little time before I was sufficiently recovered from my astonishment to speak. Then I replied slowly, choosing my words carefully, and uttering them as distinctly as I could.

"I am a native of Earth, the great, white globe you can see in the sky. I came here in a machine which moves through

space and time. I left it, and was caught up into the air by one of those purple, floating things. I broke the web, and fell here. My body is so torn by the thorns that I cannot move."

The thing piped again, a single, quavering note. It was repeated until its meaning formed in my mind.

"I understand."

"Who are you?" I ventured, and sensed the meaning of the reply as it was being piped for the third time.

"I am the Mother. The Eternal Ones, who destroyed my people, pursue me. To escape them, I am going to the sea."

There was a pause, and the thin, musical tones came again. This time, I understood them more easily.

"Your body seems slow to heal its hurts. Your mental force is feeble. May I aid you?"

"Of course," I said. "I would be grateful."

"Lie still. Trust me. Do not resist. You must sleep."

When the meaning of the liquid notes came to me, I relaxed upon the sand, and closed my eyes. I could feel the warm, vibrant pressure of the mantle on my forehead. Vital, throbbing force seemed to pulse through it into me. I felt no fear, despite the strangeness of my situation; only a serene trust in the power of this being. I felt a command to sleep, and did not resist it; and a strong tide of energy swept me into oblivion . . .

It seemed but an instant later, though it must have been many hours, when an insistent voice called me back from sleep. Vitality filled me. Even before I opened my eyes, I was conscious of a new and abounding physical vigour, of perfect health and high spirits; and I knew, by the complete absence of bodily pain, that my wounds were completely healed.

I opened my lids, and saw the amazing creature that had called itself the Mother, its smooth, golden body coiled beside me on the sand, its large, clear eyes watching me intently, with kindly sympathy. Abruptly, I sat up. My limbs were stiff no longer. My body was still caked with dried blood, clothed in my tattered garments; the sticky, scarlet coils of the web were still around me. But my ragged wounds were closed. Only white scars showed where they had been.

"I'm well!" I cried thankfully. "How ever did you do it?"

The strange being piped melodiously, and I grasped its meaning almost at once.

"My vital force is stronger than yours. I merely lent you energy."

I began tearing at the coils of the crimson web about me. Their viscid covering seemed to have dried a little; otherwise, I might never have got them off. After a moment, the Mother glided forward and helped, using the white, membranous appendages like hands. Though they appeared quite frail, they were able to grasp the red cable powerfully when they were folded about it, and in a few moments I was on my feet.

Again the Mother piped at me, but now I failed to comprehend, though vague images were summoned to my mind. I knelt down again on the sand, and the being glided towards me and pressed the white, red-veined mantle once more against my forehead. An amazing thing, that mantle; so delicately beautiful, yet so strong, and useful as an organ of some strange sense. The meaning of the pipings came to me clearly, with the warm, vibrant surface touching my brow.

"Adventurer, tell me more of your world, and how you came here. My people are old, and I have powers beyond your own, but we have never been able to go beyond the atmosphere of our planet. Even the Eternal Ones, with all their machines, have never been able to bridge the gulf of space. And it has been thought that the primary planet from which you say you came is yet too hot for the development of life. . . ."

CHAPTER VI

THE SOLE SURVIVOR

FOR many hours we talked, I in my natural voice, the Mother in those weird, melodious pipings. At first, the transference of thought which the wonderful mantle made possible was slow and awkward. I, especially, had trouble in receiving, and had many times to ask the Mother to repeat a complex thought. But facility increased with practice, and at length I was able to understand quite

readily, even when the white membrane did not touch me.

The Sun had been low when I woke. It set, and the dew fell upon us, but we talked on in the darkness. And the Earth rose, illuminating the jungle with her argent glory. Still we talked, until it was day again. For a time, the air was quite cold. Wet with the abundant dew, I felt chilled, and shivered. But the Mother touched me again with the white membrane; a quick, throbbing warmth seemed to flow from it into my body, and I felt cold no longer.

I told much of the world that I had left, and of my own insignificant life upon it. I told of the machine, of the voyage across space and back through eons of time, to this young Moon. And the Mother told me of her life, and of her lost people.

She had been the leader of a community of creatures that had lived on the highlands, near the source of the great river that I had seen; a community which in some respects had resembled those of ants or bees upon the Earth. It had contained thousands of neuter beings, imperfectly developed females, workers—and herself, the only member capable of reproduction. She was now the sole survivor of that community. It seemed that her race was very old, and had developed a high civilisation, but the Mother admitted that they had had no machines or buildings of any kind. She declared that such things were marks of barbarism, and that her own culture was much superior to mine.

"Once, we had machines," she told me. "My ancient Mothers lived in shells of metal and wood such as you describe, and constructed machines to aid and protect their weak, inefficient bodies. But the machines only weakened them still further; their limbs atrophied, perished, from lack of use. Even their brains were injured, for they lived an easy life, depending upon the machines for their existence, facing no new problems.

"Some of my people awoke to the danger. They left the cities, and returned to the forests and the seas, to live sternly, to depend upon their own bodies; to remain living things, and not grow into cold, emotionless machines. So the Mothers were divided; and my people were those that returned to the forest."

"And what," I asked, "of those that remained in the city, that kept the machines?"

"They became the Eternal Ones—my enemies. Generation upon generation, their bodies wasted away, until they were no longer natural animals. They became mere brains, with eyes and feeble tentacles: living brains, with bodies of metal. Too weak, they became, to reproduce their kind, so they sought immortality, with their mechanical science; and still some of them live on, in their ugly city of metal, though for ages no young have been born among them. The Eternal Ones. . . .

"But at last they die, because that is the way of life. Even with all their knowledge, they cannot live for ever. One by one, they fall, and their strange machines are still, with brains rotting in their cases. So, the few thousands that still live attacked my people. They planned to take the Mothers, to change their offspring with their hideous arts, and make of them new brains for the machines. The Mothers were many, when the war began, and my people a thousand times more numerous. Now, only I remain.

"It was no easy victory for the Eternal Ones. My people fought bravely, and many an ancient brain they killed. But the Eternal Ones had great engines of war that we could not escape, nor destroy with our vital energy. All the Mothers save myself were taken, and all of them destroyed themselves, rather than have their children made into living machines. I alone escaped, because my people sacrificed their lives for me.

"In my body is the seed of a new race, and I seek a home for my children. I have left our old land on the shores of the lake, and I am going down to the sea. There we shall be far from the Eternal Ones, and perhaps our enemies will never find us. But they know I have escaped, and they are hunting me; hunting me with their strange machines. . . ."

WHEN day came, I felt very hungry. What was I to do for food in this weird jungle? Even if I could find fruits or nuts, how could I tell whether or not they were poisonous? I mentioned my hunger to the Mother.

"Come," she piped, and glided away,

across the white sand, with easy, sinuous grace. Very beautiful, she was, with her slim body, smooth and rounded. The golden down was bright in the sunlight; sapphire rays played over the blue plume upon her head, and the wondrous red-vined mantles at her sides shone brilliantly.

Regarding her strange beauty, I stood still for a moment, and then moved after her slowly, absently. She turned back suddenly, with something like humour flashing in her great, violet eyes.

"Is your body so slow that you cannot keep up with me?" she piped, almost derisively. "Shall I carry you?" Her glance seemed mocking.

For answer, I crouched, leaped into the air. My wild spring carried me a score of feet above her, and beyond, but I had the misfortune to come down head first upon the sand, though I received no hurt. I saw laughter in her eyes, as she glided swiftly to me, and grasped my arm with one of the white mantles to assist me to my feet.

"You could travel splendidly if there were two of you—one to help the other out of the thorns," she said, quaintly. I followed behind her, meekly.

We reached a mass of the green creeper, and without hesitation, she pushed on through the feathery foliage. I broke through after her. She led the way to one of the huge, white flowers, bent it towards her, and crept into it like a golden bee. In a moment, she emerged, with mantles cupped to hold a good quantity of white, crystalline powder which she had scraped from the inside of the huge calyx. She made me hold out my hands, and dropped part of the powder into them, then lifted what she had left upon the other mantle, and began delicately licking at it with her lips.

I tasted it. It was sweet, with a peculiar, though not unpleasant, acid flavour. It formed a sort of gum as it was wetted in my mouth, and this softened and dissolved as I continued to chew. I took a larger bite, and soon finished all the Mother had given me. We visited another bloom. This time I reached in, and scraped out the powder with my own hand. I divided my booty with the Mother. She accepted but little, and I found enough left in the calyx to satisfy my own hunger.

"Now I must go on, down to the sea," she piped. "Too long already have I delayed with you; for I carry the seed of my race, and must not neglect the great work that has fallen upon me. But I was glad to know of your strange planet, and it is good to be with an intelligent being again, when I had been so long alone. I wish I could stay longer with you, but my wishes are not my master."

Thoughts of parting from this creature were oddly disturbing. My feelings for her were partly gratitude for saving my life, and partly something else—a sense of comradeship. We were companion adventurers in this weird and lonely jungle. Solitude, and my human desire for society of any sort, drew me towards her. Then came an idea. She was going down the valley to the sea, and my way led in the same direction, until I could see the triple peak that marked the location of the machine.

"May I travel with you," I asked her, "until we reach the mountain where I left the machine in which I came to your world?"

The Mother looked at me with fine, dark eyes, and glided suddenly nearer. A white, membranous mantle folded about my hand, with warm pressure.

"I am glad you wish to go with me," she piped. "But you must think of the danger. Remember that I am hunted by the Eternal Ones. They will doubtless destroy you, if they find us together."

"I have a weapon," I said. "I'll put up a scrap, if we get in a tight corner. Besides, I'd very likely be killed, one way or another, if I tried to travel alone."

"Let us go, Adventurer," she agreed.

I HAD dropped the camera, the binoculars, and the vacuum-bottle, when the balloon monster jerked me into the air. They were lost in the jungle. But I still had the automatic, which had remained in my hand—stuck to it, in fact—when I fell upon the sand. I carried it with me.

The Mother objected to the weapon, because it was a machine, and machines weakened all that used them. But I insisted that we should have to fight machines, if the Eternal Ones caught up with us, and she yielded gracefully.

"But my vital force will prove stronger

than your rude slaying machine, Adventurer," she maintained.

We set out almost immediately. She glided swiftly along the strip of bare sand beside the wall of thorny, yellow scrub, and began my instruction in the ways of life upon the Moon by informing me that there was always such a clear zone about a thicket of the thorn-brush, because its roots generated a poison in the soil which prevented the growth of other vegetation near them.

When we had travelled two or three miles, we came to a crystal pool, where the abundant dew had collected at the bottom of a bare, rocky slope. We drank there; then the Mother plunged into it, joyously. With white mantles folded tightly against her sides, she flashed through the water like a golden eel. I was glad to remove my own garments, and wash the grime and dried blood from my body.

I was donning my tattered clothing again, and the Mother was lying near me at the edge of the pool, with eyes closed, drying her golden fur in the sunshine, when I saw the ghostly bars of light. Seven slim, upright pillars of pale, white radiance, they stood like phantom columns about us, enclosing a space ten yards across. They were not above two inches in diameter; and they were quite transparent, so that I could see the green jungle and the yellow wall of thorn-brush quite plainly through them.

I was not particularly alarmed; in fact, I thought the ghostly pillars were only some trick of my vision. I rubbed my eyes, and said rather carelessly to the Mother:

"Are the spirits building a fence around us? Or is it just my eyes?"

She lifted her golden, blue-crested head quickly. Her violet eyes went wide. I saw alarm in them, then sheer terror; and she moved with astonishing speed. Drawing her slender length into a coil, she leaped, and seized my shoulder as she did so with one of her mantles, jerking me between two of those strange columns of motionless light, out of the area they enclosed. I fell on the sand, scrambled to my feet.

"What——?" I began.

"The Eternal Ones!" Her sweet, whistling tones came rapidly. "They

have found me. Even here, they reach me with their evil power. We must go on, quickly."

She glided swiftly away. Still buttoning my clothing, I followed, keeping pace with her easily with my regular leaps of half a dozen yards, and wondering vainly what danger there might have been in those pillars of ghostly light.

CHAPTER VII

THE TRAIL THROUGH THE THORNS

WE SKIRTED a continuous wall of the spiky, yellow scrub. The strip of clear ground we followed was usually between fifty and one hundred yards wide. The mass of yellow thorn-brush, the poison from whose roots had killed the vegetation here, rose dense and impenetrable to our right, and to the left of our open way were limitless stretches covered with the green creeper; undulating seas of feathery, emerald foliage scattered with huge, white blooms, and broken here and there by strange plants of various kinds. Beyond were other clumps of the yellow scrub, and a red mountain wall rose in the distance; while huge, purple balloons, anchored with their red cables, swayed upon this weird, sunlit moonscape.

We must have followed that open strip of sand for ten miles. I was beginning to breathe heavily, as violent exercise always made me do in the Moon's light atmosphere, but the Mother showed no fatigue. Abruptly, she paused ahead of me, and glided into a sort of tunnel through the forest of thorns, a passage five feet wide and six feet high, with the yellow spikes arching over it. The floor was worn smooth, as if by constant use, and it seemed almost perfectly straight, for I could see down it for a considerable distance. Twilight filled it, filtering down through the masses of cruel bayonets above.

"I am not eager to use this path," the Mother told me. "For those that made it are hostile things, and though not very intelligent, they are able to resist my vital force, so that I cannot control them. We shall be helpless if they discover us. But

there is no other way. We must cross this forest of thorns, and I am glad to be out of sight in this tunnel; perhaps the Eternal Ones will lose us again. We must hasten, and hope that we encounter no rightful user of the path. If one appears, we must hide."

I was placed immediately at a disadvantage, on entering the tunnel, for I could no longer take the long leaps by which I had been travelling. My pace became a mere trot, and I had to hold my head down to save it from the poison thorns above. The Mother glided easily before me, but, to my relief, she was not in such haste as before. I found breath for speech.

"Those ghostly bars," I panted, "What were they?"

"The Eternal Ones possess strange powers of science," came the thin, whistling notes of her reply. "Something like the television you told me of, but more highly developed. They were able to see us, back by the pool, and the shining bars were projected through space by their rays of force. They meant some harm to us, but just what, I do not know. It is apparently a new weapon, which they did not use in the war."

We must have gone many miles through the tunnel, which continued without any deviation. There had been no branches or cross-passages; we had come through no open space. Roof and walls of yellow thorns had been unbroken. I was wondering what sort of creature it might be that had made a path through them so long and straight, when the Mother stopped suddenly, and turned to face me.

"One of the makers of the trail is approaching," she piped. "I feel it coming. Wait for me awhile."

She sank in golden coils upon the trail. Her head was raised a little; the mantles were extended stiffly. Always before they had been white, except for their fine veining of red, but now soft, rosy colours flushed them. Her full, red lips were parted a little, and her eyes had grown wide and staring. They seemed to look past me, to gaze upon scenes far-off, invisible to normal sight.

For a long time she remained motionless, violet orbs distant, staring. Then she stirred, abruptly; rose upon tawny, golden

coils. Alarm was in her great eyes, and in her thin, melodious tones.

"The creature comes behind us, upon this trail. We have scant time to reach the open. We must go swiftly."

She waited for me to begin my stumbling run, then glided along beside me. I moved awkwardly. With only the Moon's slight gravitational pull to hold me to the trail, I was in constant danger from the thorns.

FOR hours, it seemed to me, we raced down the straight passage, through the unbroken forest of yellow thorns. My heart was labouring painfully; my breath came in short gasps of agony. My body was not equipped for such prolonged exertions in the light air. But still the Mother, just ahead of me, glided along with effortless ease. I knew that she could soon have outdistanced me, had she wished.

At last I stumbled and fell headlong; and I did not have the energy to get at once to my feet. My lungs burned, and my heart was a great ache. Sweat was pouring from me; my temples throbbed, and a red mist obscured my sight.

"Go—on," I gasped, between laboured breaths. "I'll try—to stop—it."

I fumbled weakly for my gun. The Mother stopped, came back to me. Her piping notes were quick, insistent.

"Come! We are near the open, now. And the thing is close. You must come!"

With a soft, flexible mantle, she seized my arm, and a wave of new strength and energy flooded into me. I staggered to my feet, and lurched forward again. As I rose, I cast a glance backward. A dark, indistinguishable shape was in view, so large that it filled almost the whole width of the tunnel. A dim circle of the pale light of the thorn forest showed around it.

I ran on . . . on . . . on. My legs rose and fell like the levers of an automaton, yet I felt no sensation from them. Even my lungs had ceased to burn, since the Mother touched me, and my heart ached no longer. It seemed that I floated beside my body, and watched it run, run, run, with the monotonously-repeated movements of a machine.

But my eyes were upon the Mother before me, gliding so swiftly through the twilight of the tunnel, with white mantles

extended stiffly, wing-like, as if to help her along; her delicate head raised, blue plume upon it flashing. I watched that blue plume as I ran. It danced mockingly before me, seeming always just beyond my grasp. I followed it through the blinding mists of fatigue, when all the rest of the world melted into a grey-blue haze, streaked with bloody crimson.

I was astonished when we came out into the sunlight, on to a strip of sand below the yellow wall of thorns. Cool, green foliage lay beyond; sinister, purple balloons above it, straining on crimson cables; and far-off, a scarlet line of mountains, steep and rugged. The Mother turned to the left. I followed automatically, mechanically. I was devoid of feeling. I could see the bright moonscape, but it was strange no longer. Even the threat of the purple balloons was remote, without consequence.

I do not know how far we ran, beside the forest of thorns, before the Mother turned again, and led the way into a mass of green creepers.

"Lie still," she piped. "The creature may not find us."

Gratefully, I flung myself down in the delicate fronds. I lay flat, with my eyes closed, my breath coming in great, sobbing gasps. The Mother folded my hand in her soft mantle again; and immediately, it seemed, I felt relief, though I still breathed heavily.

"Your reserve of vital energy is very low," she commented.

I took the automatic from my pocket, and examined it to see that it was ready for action; I had cleaned and loaded it before we started. I saw the Mother raise her blue-crested head, cautiously. I got to my knees, peered back along the bare strip of sand down which we had run, and saw the thing advancing swiftly towards us. A sphere of bright crimson, nearly five feet in diameter, it rolled along, following the way we had come.

"It has found us!" the Mother piped, very softly. "And my vital power cannot reach through its armour. It will suck the fluids from our bodies."

I looked down at her. She had drawn her slender body into a golden coil, and the mantles were 'outspread, pure white, veined with fine lines of scarlet, and frail as the petals of a lily. Her head rose in

the centre, and her great eyes were grave and calm; there was no trace of panic in them. I raised the automatic, determined to show no more fear than she, and to give of my best to save her.

NOW the crimson globe was no more than fifty yards away, and I could distinguish the individual scales of its shining armour, like plates of horn covered with ruby lacquer. No limbs or appendages were visible, then, but I saw dark ovals upon the shell, appearing at the top and seeming to drop down as the thing rolled along. I began shooting.

At such a distance, there was no possibility of missing. I knelt in the leaves of the green creeper, and emptied the magazine into the red globe. It continued to roll on towards us, without change of direction or speed; but a deep, angry drumming sound came from within it, a reverberating roar of astonishing volume. After a few moments, I heard it repeated from several points about us: low and distant rumblings, almost like thunder. In desperate haste, I was filling the clip with fresh cartridges, but before I could snap it back into the gun, the creature was upon us.

Until it stopped it had presented an unbroken surface; but then, suddenly, six long black tentacles reached out of it, one from each of the dark ovals I had seen evenly spaced about the red shell. They were a dozen feet long, slender, corrugated with innumerable wrinkles, and glistening with tiny drops of moisture; and at the base of each was a single staring, black-lidded eye. One of those black tentacles was thrust towards me. It reeked with an overpowering, fetid odour. At its extremity was a sharp, hooked claw, beside a black opening. I think the creature sucked its food through those hideous, retractable tentacles.

I got the loaded clip into the gun, hastily snapped a cartridge into the chamber. Shrinking back from the writhing, tentacular arm, I fired seven shots, as rapidly as I could press the trigger, into the black-lidded eye. The deep, drumming notes came again from within the red shell. The black tentacles writhed, thrashed about, and became suddenly stiff and rigid. The sound of it died to a curious rattle, and then ceased.

"You have killed it," the Mother whistled, musically. "You use your machine well, and it is more powerful than I thought. Perhaps, after all, we may yet live."

As if in ominous answer, a roll of distant drumming came from the tangle of yellow thorns. She listened, and the white mantles stiffened in alarm.

"But it has called to its kind. Soon, many will be here. We must hasten away."

Though I was still so tired that movement was torture, I rose and followed the Mother, as she glided on along the sand. Only a moment did I pause to examine the creature I had killed, which seemed unique, both in shape and in means of locomotion. It must have developed the spherical shell of red armour through ages of life in the spiky scrub, and by drawing its limbs inside, it was able to crash through the thorns without suffering any hurt. I supposed that it rolled itself along by some rhythmic muscular contraction inside the shell; such movement being much easier on the Moon than it would be on Earth, because of the lesser gravity. Where it could not roll, it dragged or lifted itself with the long, muscular tentacles.

Since we were again in the open air, I was able to resume my progression by deliberate, measured leaps, which carried me forward as fast as the Mother could move and with less effort than I had spent in running, for I had a few moments of rest as I glided through the air between leaps, which compensated for the fiercer effort of each spring. From time to time I looked back, nervously. At first, I could see only the scarlet shell of the dead creature, by the green vines where we had killed it, growing smaller and smaller as we increased our distance, until it was hardly visible. Then I saw other spheres emerging from the tangle of yellow thorn-brush, rolling along the strip of bare sand, to congregate about the dead being. Finally, I could see that they had started in our direction, and were rolling along rather faster than we could move.

"They are coming," I told the Mother. "And more of them than I can kill."

"They are implacable," came her piping reply. "When one of them sets out upon the trail of some luckless creature, it never

stops until it has sucked the body fluids from it."

"Anything we can do?" I questioned.

"There is a rock ahead of us, beyond that thicket, with sides so steep they will not be able to climb it. If we can reach it in time, we may be able to scramble to the top. It will be only temporary escape, since the creatures will never leave so long as we are alive upon it, but we shall delay our fate, at least—if we can reach it in time."

CHAPTER VIII

THE ETERNAL ONES

AGAIN I looked back. Our pursuers were rolling along like a group of red marbles, at the edge of the yellow forest; gaining upon us—swiftly. The Mother glided along still faster. The white mantles were stiffly extended from her golden sides, and aglow with rosy colours. The muscles beneath her furry skin rippled evenly, gracefully. I increased the length of my own leaps.

We rounded an arm of the tangle of scrub, and came in sight of the rock, a jutting mass of black granite. Its sides leaped up, steep and bare, from a mass of green creepers. Thirty feet high, it was, and perhaps a hundred in length. Red moss crowned it; and by the time we first glimpsed it, those crimson marbles rolling swiftly after us had grown to the size of baseballs. The Mother glided on, a tireless strength in her graceful, tawny body, while I leaped desperately, straining to drive myself as fast as possible.

We turned, broke through the thick masses of verdure to the rock, and stood beneath its sheer wall, grim and black. The red spheres were no more than a hundred yards behind. A sudden rumble of drums came from them when we halted, and I could see the dark ovals on the shining armour that marked their eyes and the ends of their concealed tentacles.

"I cannot climb that," the Mother was protesting. "It is steeper than I thought."

"I can leap up!" I cried. "I'll carry you."

"Better that one should live than both of us die," she piped. "I can delay them, until you reach the top."

She started back, towards the swiftly rolling spheres. I bent, and snatched her up. It was the first time that I had felt her body. The golden fur was short, and very soft. The rounded flesh beneath it was firm and muscular, warm and vibrant. It throbbed with life. I felt a sudden surge of energy flow into me from contact with it, as I threw her over my shoulder, and walked back a few steps. Then I turned, ran, and leaped up at that sheer wall of black granite.

My own weight, on the Moon, was only thirty pounds, and the Mother weighed but a third as much. Yet, light though we were, it seemed too much to hope that we could reach the top of that cliff in a single leap. At first I thought we should make it comfortably, as we soared swiftly up through the air towards the crown of red moss. Then I realised that we should strike the smooth, sheer rock-face within a foot or two of the summit. But my searching eyes caught a little projecting ledge, and as we fell against the vertical cliff my fingers clutched at it, desperately.

There was a moment of dreadful uncertainty, for the ledge was slippery, but, though my left hand slipped, the other held, and with a last tremendous effort, I drew myself up. The Mother slid down from my shoulder, grasped my left hand with one of the white mantles, and drew me to safety. Trembling from the strain of my exertions, I got to my feet upon the soft, scarlet moss, and surveyed our fortress. The top of the rock was almost level, twenty feet wide and nearly a hundred in length. On all sides the walls were steep, though not always so steep as where I had made my prodigious leap.

"Thank you, Adventurer," the Mother whistled, musically. "You have saved my life, and the lives of all my people to come."

"I was only repaying a debt," I told her.

We watched the red globes, which by now had reached the foot of the cliff. The rumble of drums floated up from the group of them, and they scattered, surrounding the butte. Presently, we saw that they were attempting to climb up after us, finding fissures and ledges on which their long tentacles could secure purchase, and drawing themselves up; and while the Mother kept careful watch on the rest, I fired down upon those which

seemed to be making the best progress. I took aim carefully, at an eye or the base of a tentacle, and usually a single shot was enough to send the climber rolling back to the green jungle.

The view from our stronghold was magnificent. On one side was an endless wall of yellow scrub, with crimson mountains towering above it in the distance. On the other, the green tangle of the luxuriant creeper swept down to the wide, silver river, and yellow and green mottled the slope that stretched up to the scarlet hills beyond.

WE HELD out for an entire day. The Sun sank beyond the red mountains when we had been upon the butte only an hour or two, and darkness might have soon ended our siege; but, fortunately, the huge, white disk of Earth rose almost immediately, and gave sufficient light throughout the night to enable us to see the spheres that persisted in their attempts to climb the walls of our rocky fort.

It was late in the following afternoon that I used my last shot. I turned to the Mother with the news that I could no longer keep the red spheres from the walls, and that they would soon be overwhelming us.

"It does not matter," she piped. "The Eternal Ones have found us again."

Looking nervously about, I saw once more the bars of ghostly light: seven thin, upright pillars of silvery radiance, standing in a ring about us. They had exactly the same appearance as those from which we had fled, at the pool.

"I have felt them watching for some time," she said. "Before, we escaped by running away. Now, that is impossible."

Calmly, she coiled her tawny length. The white mantles were folded against the golden fur. Her small head sank upon her coils, blue crest erect above it, and her violet eyes reflected neither fear nor despair. The seven pillars of light about us became steadily brighter. Then one of the red spheres, with black tentacles extended, dragged itself upon the top of the butte. The Mother saw it, but paid no heed: it was outside the ring formed by the light-pillars. I stood still within that ring, beside the Mother, watching, waiting. . . .

The seven columns grew still more brilliant, until it seemed they were no longer merely light, but of solid metal. The next instant, I was blinded by a vivid flash of light, intolerably bright; a splintering crash of sound smote my ears, sharp as the crack of a rifle, but infinitely louder, and a wave of fierce pain surged through my body, as if I had received a severe electric shock. I had a sense of an abrupt movement in the rock beneath my feet, then found that I was no longer upon the rock.

I was standing on a broad, smooth, metal platform, about whose edge rose seven metal rods which shone with a white light, their positions corresponding exactly with the seven light-pillars. The Mother was coiled beside me, her eyes still grave, and showing no surprise; but I was dazed with astonishment, for we were no longer in the jungle. The metal platform upon which I stood was part of a complex mechanism of bars and shining coils, and huge tubes of transparent crystal, which stood in the centre of a broad, open court paved with bright metal.

About the court towered buildings: lofty, rectangular edifices of metal and crystal. They were not beautiful structures, nor were they in good repair. The metal was covered with ugly red oxide, and many of the crystal panels were shattered. Along the metal-paved streets, and in the wide courtyard about us, things were moving: not living things, but grotesque things of metal—machines. They had no common form: they had apparently been designed in a variety of shapes, to fill a variety of purposes. But many had a resemblance to living things that was a horrible mockery.

"This is the land of the Eternal Ones," the Mother piped to me, softly. "These are the beings that destroyed my people, seeking new brains for their worn-out machines."

"But how did we get here?" I demanded.

"Evidently they have developed means of transmitting matter through space. A mere technical question: resolving matter into energy, transmitting the energy without loss on a light-beam, and condensing it again into the original atoms. It is not remarkable that the Eternal Ones can do such things, when they gave up all that

is life for such power, sacrificed their bodies for machines. Should they not have some reward?"

"It seems impossible——"

"It must, to you. The science of your world is young. If you have television after a few hundred years, what will you not have developed after a hundred thousand? Even to the Eternal Ones, it is new. It is only in my own time that they have been able to transmit objects between two points without destroying their identity; and they have never before used this apparatus, with carrier rays that could reach out to disintegrate our bodies upon the rock and create a reflecting zone of interference that would focus the beam here——"

HER piping notes broke off sharply. Three grotesque machines were advancing upon us, about the platform: queer shaped cases of bright metal, with levers and wheels projecting from them. Upon the top of each was a transparent crystal dome containing a great, shapeless, grey mass, in which was a pair of huge, staring eyes. The brain in the machine! The Eternal One.

Horrible travesties of life, were those metal things. At first they appeared almost alive, with their quick, sure movements, but mechanical sounds came from them—little clatterings and hummings. They were stark and ugly, and their eyes filled me with dread: huge, black, and cold. There was nothing warm in them, nothing human, nothing kind. They were as emotionless as polished lenses, and filled with menace.

"They shall not take me alive!" the Mother piped, lifting herself on tawny coils. Then, as if something had snapped like a taut wire inside me, I ran at the nearest of the Eternal Ones, my eyes searching swiftly for a weapon.

It was one of the upright metal rods that I seized. Its lower end was set in an odd-shaped mass of white crystal, which I took to be an insulator of some kind. It shattered when I threw my weight on the rod, which came free in my hands, the white glow which had surrounded it vanishing instantly, so that I saw it was copper. Thus I was provided with a massive metal club, as heavy as I could wield, and which on Earth would have weighed



ANOTHER MACHINE FELL UPON ME. AS I SWUNG THE COPPER BAR, ITS METAL ARMS CLOSED ABOUT MY BODY.

far more than I could lift. Raising it above my head, I sprang in front of the foremost of the advancing machines, moving stiffly upon its metal limbs.

The machine stopped before me. An angry, insistent buzzing came from it, and two great, hooked arms of metal reached out from it suddenly, as if to seize me. Simultaneously, I struck, bringing the copper bar down upon the transparent dome with all my strength. The crystal was tough, but the inertia of the copper bar was as great here as it would have been upon the Earth, and its hundreds of pounds came down with terrific force. The dome was shattered, and the grey brain smashed to a pulp.

No sooner had the machine collapsed in a heap than its two fellows fell upon me. Though the copper bar was not very heavy, it was hard to swing because of its great inertia, and the shining limbs of the third machine closed about my body even as I destroyed the second with another smashing blow. I squirmed desperately, but was unable to release myself from its grip, or even to twist myself

into a position to strike at its crystal dome. Then the Mother was gliding towards me, blue crest erect upon her head, mantles stiffly outstretched from her smooth, golden sides, and almost scarlet with the flashing lights that played through them. My momentary despair vanished; I felt that she was invincible. She almost reached me. Then she rose upon her glossy coils, and fixed her gaze on the transparent dome of the machine that held me powerless.

Abruptly, the machine released me; its metal limbs relaxed, became stiff and motionless. My copper mace rose and descended once more, and the machine fell with a clatter upon its side.

"My mental energy is greater than the Eternal One's," the Mother piped in explanation. "I was able to interfere with its neural processes, to cause paralysis. Now, you must smash the delicate parts of the machine that brought us here, so that if we can have the good fortune to escape they cannot soon bring us back. It is the only one they have, I know, and it does not look as if it could be quickly repaired."

CHAPTER IX

THE FLIGHT FROM THE MACHINES

MY CLUB was busy again. Shiny coils were battered beneath it; complex prisms, mirrors and lenses shattered; delicate wires and grids in crystal shells, which must have been electron tubes, destroyed. The three brain-machines we had wrecked had been the only ones to come our way before, but a score of others were approaching across the metal-paved court, producing buzzing sounds as of anger and excitement, before my work was done. Too many of them for us to contend with. We must attempt our escape.

I stooped, picked up the Mother's warm, downy body, and ran across the metal platform towards the ring of approaching machine-beings. Near them, I leaped, as high as I could. The spring carried me well over them, and a good many yards beyond. In a moment, I was upon a worn pavement of metal, which

ran between ancient and ugly buildings towards a high wall black and brilliant as obsidian.

I hastened towards the wall, progressing in great leaps. The Eternal Ones followed, in humming, clattering confusion, falling steadily behind. They had been taken quite by surprise; and complete dependence on the machine had left them incapable of responding quickly to new emergencies. As we later discovered, some of their kind could travel much faster than we, but those which followed us happened to be of a slow-moving type. Though I do not doubt that they might easily have destroyed us as we fled; but then their object would have been defeated—they wanted the Mother alive.

We reached the black wall well ahead of our pursuers. Its surface was smooth and perpendicular; it was fully as high as the cliff up which I had leaped with the Mother, and there was no projecting ledge to save us if I fell short. I paused, dropping the heavy mace. But my strange companion solved the problem in a flash.

"You must throw me up," she suggested. "Then leap over yourself."

There was no time for argument. She coiled quickly up into a golden sphere. I lifted her easily, hurled her upwards like a football, and she vanished over the top of the wall. Then I picked up my mace and threw it up, and to one side, so that it would not strike her. The Eternal Ones were buzzing angrily close behind me. One of them flung some missile; there was a crashing explosion against the black wall, and a great flare of green light half-blinded me, even as I leaped.

My spring carried me completely over the wall, which was five or six feet in thickness. Before I struck the ground, I glimpsed a vast, green plain lying away eastward to the horizon, and to the north, a distant line of red mountains; while the city of the Eternal Ones lay westward. I descended into a dense tangle of the green creeper. Foot-thick stems covered the ground in an unbroken network, feathery leaves rising from them higher than my head. I fell on my side in the soft foliage, and struggled quickly to my feet. My view was cut off in all directions, and I could see nothing of the Mother in the exotic jungle. Then her cautious, whistling tones reached me.

"This way, Adventurer! Here is your weapon."

I broke through the mass of delicate, green fronds in the direction of the sound, to find the Mother, unharmed, coiled in a golden circle beside the copper bar. She glided silently away, as I approached. I picked up the mace, and followed, as rapidly and quietly as I could. Once I looked back, when we passed a narrow, open space, and saw a little group of the Eternal Ones standing upon the black wall. They must have been looking for us, but I do not suppose they saw us.

FOR the rest of that day, and all through the night, when the jungle was weird and silvery in the Earth-light, and until well into the following day, we hurried on. We did not stop except to drink and bathe at a little stream, and to scrape the sweet, white powder from a few of the great, argent flowers we passed; we ate as we moved on. The jungle of green creepers was unbroken, and we were always hidden in the luxuriant foliage.

At first, I had been sure we would be followed, but as the hours passed and there was no sign of pursuit, my spirits rose. I doubted, now, that the Eternal Ones could follow the trail fast enough to overtake us. Yet I still carried the copper mace; and the Mother was less optimistic.

"I know they are following," she told me. "I feel them. But we may lose them yet, if they cannot repair the machine which you wrecked—and I am sure they cannot do it soon."

We approached a rocky slope, where the Mother found a little cave beneath an overhanging ledge, in which we rested. Totally exhausted, I threw myself down, and slept like a dead man. It was early the next morning when the Mother woke me. She lay coiled at the entrance of the cave, her white mantles stiffened, violet eyes grave and watchful.

"The Eternal Ones follow," she piped. "They are yet far off. But we must go on."

Climbing to the top of the rocky slope, we came upon a vast plateau covered with green moss. The level surface was broken here and there by low hills, but no other vegetation was in view. It took us six

days to cross that moss-grown plain. On the fourth day, we finished the white powder we had carried with us, and we found no water on the fifth or sixth; so that, though those days were of only eighteen hours each, we were in a sorry plight when we descended into a valley green with creeper, through which flowed a crystal stream whose water seemed the sweetest I had ever tasted.

We ate and rested for two nights and a day, before we went on, though the Mother insisted that the Eternal Ones still pursued us. Then, for seven days, we followed the stream, which was joined by countless tributaries until it became a majestic river. On the tenth day, the river flowed into a still greater one, which rolled through a valley many miles wide, covered with yellow thorn-brush and green creeper, and infested with thousands of the purple balloon-creatures which I had learned to avoid by keeping to the jungle, where they could not throw their webs with accuracy.

We swam the river, and continued down the eastern bank. Five days later, we came in sight of a triple peak I well remembered; and the next morning we left the jungle, and climbed up to the moss-carpeted, red plateau where I had left the machine. I had feared that it might be gone, or wrecked, but it lay just as I had left it on the day after I landed on the Moon.

WE REACHED the door of the gleaming machine, the Mother gliding beside me. Trembling with eagerness, I turned the knob and opened it. Everything was in order, just as I had left it: the oxygen cylinders, the batteries, the food refrigerator, the central control-table, with the chart lying upon it. I sighed my relief. In a few days, if the mechanism worked as I hoped it would, I should be back upon the Earth, back on Long Island, ready to report to my uncle, and collect the first payment of my fifty thousand a year.

Standing on the narrow deck outside the door, I looked down at the Mother. She was coiled at my feet. The blue plume upon her golden head seemed to droop; the white mantles were limp, dragging. Her violet eyes, staring up at me, seemed somehow wistful and sad. Abruptly, an

ache sprang into my heart, and my eyes dimmed, so that the bright, golden image of her swam before me. I had hardly realised what her companionship had meant to me, in our days together. Strange as she was, I had come to regard her almost as human; loyal, courageous, kind—a comrade.

"You must go with me," I stammered, in a voice oddly husky. "I don't know whether the machine will ever get back to Earth or not, but at least it will carry us out of reach of the Eternal Ones."

For the first time, the musical pipings of the Mother seemed broken and uneven, as if with emotion.

"No. We have been together for long, Adventurer, and parting is not easy. But I have a great work to do. The seed of my kind is in me, and it must not die. The Eternal Ones are near, but I will not give up the battle until I am dead."

She lifted her tawny length beside me. The limp, pallid mantles were suddenly bright and strong again. They seized my hands in a grasp uncomfortably tight. The Mother gazed up at my face with eyes earnest and lonely and wistful, with the tragedy of her race reflected in them. Then she dropped to the ground and glided swiftly away.

I looked after her with misty eyes until she was half-way across the crimson plateau, on her way to the sea, to find a home for the new race she was to rear. With a leaden heart and an aching constriction in my throat, I climbed through the oval door into the machine, and fastened it. But I did not approach the control-table. I stood at a round window, watching the Mother gliding away across the carpet of red moss. Going ahead alone, the last of her race. . . .

Then I looked in the other direction—and saw the Eternal Ones. There were five of them, moving swiftly across the plateau, the way we had come. Their bright metal cases were larger than those of the machines we had encountered in the city; and their limbs were longer. They stalked like moving towers of metal, each upon four jointed stilts, and long, flail-like arms dangled from their tops. Crystal domes crowned them, sparkling in the sunlight, and covering, I knew, the huge, grey brains that controlled them.

Almost at the edge of the plateau they

were, when I first saw them. I would have had ample time to finish sealing the door, to close the valve through which I had let out the excess air upon landing, and to drive up through the Moon's atmosphere towards the white planet; but I did not move to do any of these things. I stood at the window watching, hands clenched so that the nails cut into my palms, teeth biting my lip. Then, as the Eternal Ones came on, I moved suddenly, prompted by an impulse I could not resist. I opened the door and clambered out, picked up the great, copper mace that I had left lying outside, and crouched beside the machine, waiting.

LOOKING across in the direction the Mother had gone, I saw her at the edge of the plateau, a tiny, distant form upon the red moss. I think she had already seen the machines and, realising the futility of flight, had turned back to face them. Soon they had almost reached the spot where I lay in-wait for them, and as they came by, I was appalled at their size. The metal stilts were fully six feet long, and the vulnerable crystal domes eight feet above the ground.

I leaped up and struck at the nearest as it passed. The mace smashed through the transparent shell and crushed the soft brain within; but the machine toppled towards me, and I fell with it to the ground, cruelly bruised beneath its angular layers. One of my legs was fast beneath it, pinned against the ground, and the weight was such that I could not immediately extricate myself. But I had clung to the copper bar, and when another machine leaned over as if to examine the fallen one, I seized the heavy weapon with both hands and struck another fatal blow.

The second machine fell stiffly beside me, in such a position that it concealed me almost entirely from the others. I struggled furiously to free my leg, while the three Eternal Ones gathered round, making curious buzzing sounds. Then I was free, and on my knees. Always slow in an emergency, the machines had taken no action while I lay helpless; but one of them sprang towards me as I moved, striking at me with a shining metal limb. I leaped up at it, avoiding the sweeping arm, and shattered its crystal brain-case with the end of the copper bar.

Yet, though the frail contents of the glassy dome were crushed, the machine still moved. It went leaping away across the plateau, its glittering limbs going through the same motions as before I had destroyed the ruling brain. I fell back to the ground, rolling over quickly to avoid its tread, then struggled to my feet, still holding grimly to the copper bar.

The two remaining machines rushed upon me, metal arms flailing. Desperately, I leaped into the air, rising ten feet above their shining cases, to fall gently down almost upon the top of one, beside the crystal dome that housed its brain. As I descended I braced my feet and struck, before it could snatch at me with its hooked tentacles; and as it toppled over, threshing about with bright metal limbs, I leaped from it towards the other, holding the bar before me. But I struck only its metal case, without harming it, and fell from it into the red moss. Then, before I could stir, the thing drove one of its metal limbs down upon my chest with a force that was agonising, crushing.

A burst of fierce pain seemed to paralyse my brain, and for a moment, I think, I was unconscious; then I was coughing up bloody foam. I lay on the red moss, unable to move, though the metal limb had been lifted from me; and, with a start, I realised that the Mother was beside me. Her smooth, furry body was pressed against my side. I saw her violet eyes, misty and appealing. She laid the rose-flushed mantles against my aching body, and the pain went suddenly from me.

I felt a new strength, so that I could get to my feet, though a hot stream of blood still trickled down my side. As I

rose, I saw the remaining machine reaching towards the Mother. I seized the copper mace again, and struck furiously at the crystal shell. The machine crashed down, beating about madly with its great metal limbs. Then my new-found strength ebbed quickly from me, and I fell to the ground again, coughing. At the same time, a flailing limb struck the Mother, a terrific blow, flinging her against the soft moss many yards away.

She crept back to me, slowly. Her golden fur was stained with crimson; her mantles were limp and pale, and there was agony in her eyes. She came to where I lay, and collapsed against my side. Very low; her musical tones sounded in my ears, and died abruptly with a choking sound. Through the rest of the day we lay there, side by side, both unable to move; and through the strange night, when the huge, white disk of Earth bathed us in silvery splendour, while in my delirium I dreamed alternately of my life upon it and of my adventures upon this weird Moon-world.

When the argent Earth was low, and we were cold and drenched with dew, the wild dreams passed, and for a few minutes I looked back upon a life that had never had any great purpose, that had been lived carelessly and impulsively; and I was not sorry that I had come to the Moon. I remained with the Mother until she stirred no more, and no effort on my part could rouse her to life. With tears in my eyes, I buried her beneath the red moss. Then, stumbling to the machine which had brought me there, I climbed in, sealed the door and started the machinery, and felt myself being lifted quickly towards the distant, beckoning Earth. . . .

In the Next Issue . . .

TALES OF WONDER has pleasure in introducing a new British writer of science fiction, with a thrilling story of Lunar adventure—

BEAST OF THE CRATER

by MARION F. EADIE

SCIENCE-FANTASY FORUM—

[CONTINUED FROM PAGE 6]

thousand million survives. Which is fortunate for us; otherwise there would be no room on this planet for human beings. It has been calculated that if the microbes in a glass of milk which had turned sour were given sufficient encouragement, in the way of sustenance and good living conditions, in four days they would have grown into a mass bigger than the Earth itself!

Those bacteria that do survive are more easily disposed of by heat than cold: you cannot freeze them to death, and some can live for several minutes in boiling water, but eventually succumb. In the laboratory, some novel deathes have been devised for them. Experimenters have found that streams of fast-moving electrons, produced by high voltages, have a destructive effect on them similar to such forms of radiation as ultra-violet rays. Another experimenter bombarded bacteria cultures with X-rays, and calculated that it required only the millionth part of the impact made by a speck of dust falling one-hundredth of an inch to kill a single bacterium!

Sound waves, so high-pitched as to be only just within range of human hearing, have also been used to destroy bacteria; while ultra-short radio waves, which generate intense heat, were found to render sterile, and fit for drinking, milk and pond water which had been crowded with microbes before these death-rays were turned against them.

J. S. BLAYRE, Salisbury, Wilts, asks: Would it be possible for a comet to destroy all life on Earth, if our world were to collide with one of them? I understand they are composed of poison gas, and have read a story which prompts the question.

There is evidence that this planet has several times encountered comets, and each time it has emerged unscathed. For these "lunatics of space," as Sir James Jeans has described them, are really quite harmless, for all their size and often terrifying appearance. Since early days they have been associated with disaster and death, and even in comparatively

recent years have caused world-wide apprehension; but modern astronomy has revealed them as nothing more than puffed-up bogeys, unsubstantial, as the monsters that pursue us in nightmare.

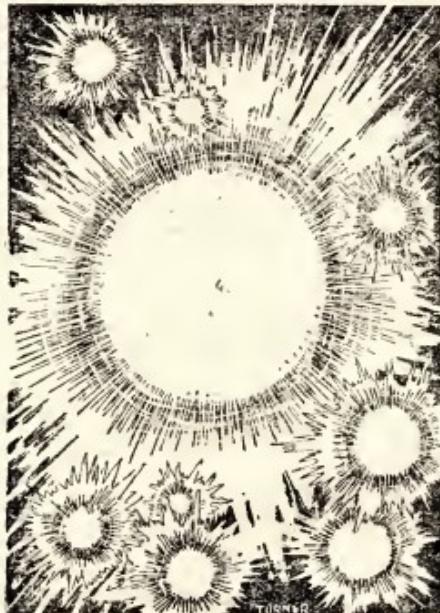
They are, in fact, simply small collections of meteoric fragments—the unwanted scraps of rock and metal scattered throughout space—surrounded by huge volumes of extremely tenuous gas which streams behind them to form their "tails." The solid particles of the "nucleus" are small as grains of sand or big as boulders, and are loosely packed in an envelope, or "coma," which may be only a few thousand or over a million miles in diameter.

When a comet nears the Sun, either in its elliptical orbit within the bounds of the Solar System or coming from the dim regions of outer space, its head becomes luminous and presents to us the appearance of a bright star. The tail, which it develops as it approaches the Sun—though some small comets have none at all—may be as long as 200,000,000 miles and hundreds of thousands in thickness, as in the case of the Great Comet of 1843. Yet this same trail of glowing vapours and cosmic dust was so diffuse that, even though it might wrap its length eight thousand times round the Earth, it would take a whole million of them to furnish material enough to equal our world in mass.

The very air we breathe is as solid matter against the incredibly thin substance of a comet's tail, which is just about as dense as the nearest approach we can get to a perfect vacuum. Some of the gas it contains is poisonous, but it is there in such niggardly quantities that if it was compressed and liquefied it would fill only a few small bottles. Little wonder, then, that these reckless adventurers of the void are sometimes dragged off their paths when they invade the strongholds of such mighty planets as Jupiter, and retreat in a state of complete disorder.

Far from being the dread menace to our world which they are supposed to be, they are all doomed themselves to a lingering death by gradual disruption, if not to sudden annihilation as the result of a brush with a much more substantial, if comparatively puny, opponent.

Catastrophe Came To The Solar System . . . And A Planet
Sacrificed Itself That Another Might Be Spared



THE COSMIC CLOUD

By
GEO. C. WALLIS

Author of *The Red Spheres*, *The Power Supreme*, etc.

HOW often have men speculated on the possibility of life on Mars! From the very earliest days of telescopic discovery, right down to Lowell's fascinating and almost convincing theory of the Martian "canals," we have wondered and conjectured. We knew that the ruddy planet was much smaller than the Earth, and that therefore its gravity must be less. We knew that it had certainly cooled down more rapidly than our own world, and that Life there had probably started earlier and advanced further in its evolution. We knew also that its temperature was very low, and its water supply dwindling.

Imagination has run riot, in essay and fiction, in our suggestions of what the inhabitants of that similar and yet so different planet might be like—if there were any inhabitants. And now at last we know, beyond all doubt, that there were living beings on Mars; that they were intelligent beings, and far in advance of us in scientific knowledge and power. We know that they had learned

to control gravitation, and could annihilate matter, transmute the elements. We know, too, that they had reached a higher moral level than our most sanguine hopes expect Earthly humanity to attain.

And yet, knowing all this, we are still completely ignorant of what the Martians were like. We cannot say whether intellect came to flower and fruit on Mars in fish, reptile, bird or mammalian form. We do not know if they were dwarf or giant. We have no inkling of their mechanics, of their methods of controlling Nature. We do not even know whether they, as ourselves, were the protoplasmic product of the carbon atom.

We do not know. *We shall never know.*

IT WAS in the second month of the Third World War that the first definite warning of the cosmic peril came.

Incredible though it seemed to those who had lived through the First and Second World Wars, the nations were,

in 1968, once more engaged in a life-and-death struggle that threatened utterly to destroy the shaken remnants of civilisation. A new Dictator had arisen, and the Western Powers were defending themselves desperately against the teeming hordes of Central Europe and the awakened East.

As in the Second World War, many prophecies, hopes and fears had been falsified. Aircraft by the thousand had rained down bombs and fire and gas on ports, factories and key cities; but so well organised was the ground defence of both sides, it was quite evident that aircraft alone would never force a decision. Whole populations had burrowed underground, living and working under concrete and steel; and all above ground had been so well darkened by night and camouflaged by day that the rain of missiles from the noisy sky had little or no effect.

Across Europe, from Finland to Greece, the opposing hosts manned their two great lines of hidden forts and tunnelled ways, pounding each other incessantly with heavy gun-fire, yet each was unable to pierce the other's defences, or was afraid to risk millions of men in a supreme effort to break through at all costs. It was a deadlock, and a very deadly deadlock. The cost of war, of defence organisation, and the diversion of labour and effort from productive fields to the barren military areas, was a stranglehold on humanity; and the end, all clear thinkers saw, could only be a defeat of all that was best in man, either through the domination of the world by an ambitious tyrant and his ruthless minions, or by a slow decadence, through years of intensive, indecisive warfare, fading away into the gloom of a grim Dark Age.

This was the prospect before the world when I, Julian Ashcroft, went home on leave to Bristol. Though welcome as a relief from the roaring front line, being on leave was not a very enjoyable experience in those miserable days. To grope through blacked-out streets, live in a darkened house, and have to dive periodically into basements and shelters as aircraft strafed the land, was worse in some ways than being on active service. On service, one had something to do, one could act: on the home front, one had to wait, to hide, to

'Since Mr. Wells first depicted the Martians as monstrous beings with evil designs on the Earth, we have become used to imagining the denizens of the Red Planet—if they exist—as creatures totally repellent and inimical to mankind. But the supposition that they would be far in advance of us in intelligence only lends support to Mr. Wallis' suggestion that they might be capable of conduct more creditable than we could find it in ourselves to display. In this respect, his latest story is nothing if not original, and gives us ample food for thought.'

scurry to one's nearest burrow like a frightened rabbit.

Still, it was good to see my parents, to know that they were safe; and to see my friend, Harvey Knowles, of the big, new observatory on Clifton Downs. I managed to get round to him on the second afternoon of my leave. He greeted me warmly enough, but seemed somehow glum, and worried. His face was thin and drawn.

"This cursed war getting you down, old chap?" I enquired. "Or is it too strenuous peering through the telescope and working out calculations? Yet you're not so badly off as some poor devils. You're comparatively safe, here, thanks to the world agreement to respect the sanctity of devotees of pure science—the only sane thing to the Dictator's credit!"

"He happens to be personally interested in astrophysics, you see," replied Harvey. "Especially in the problem of space-travel. Once he owns the Earth—if he ever does—he will be yearning to annex some of the other planets. The terrible disaster which all space-ships have met with up to now won't deter him at all. So, we astronomers lead charmed lives."

"Then what's biting you?"

"Something that has been worrying a few of us for a good while, Julian. The war has crowded it out of the news, on

both sides of the line, but it is bound to cause a stir, eventually. There's something going on in the Solar System that may be a great deal more important even than the World War."

"Then it must be something big. But what is it?" I persisted. "You never mentioned it in your letters."

"**I**T'S so extraordinary—so queer," said Harvey. "You know that we scientists have always lived in the comfortable belief that Kepler's and Newton's laws—corrected by Einstein and others, of course—were to be depended upon. We thought that we could predict the positions of the planets at any given time. It was merely a matter of careful calculation, with a very small margin of error. Yet, several months ago, some of the larger planets were discovered to be hundreds, even thousands, of miles out of place. Either the old laws are faulty, or something absolutely inexplicable is happening to the Solar System."

"Let's have the details," I said, lighting a cigarette. "It's good to have something else to think about. But I can't see why planets being ahead of or behind schedule should worry you so much. What harm is there in it?"

"Harm!" he almost shouted at me. "When the Solar System gets out of gear—my God! Only last week, Saturn was two whole degrees behind time; Uranus was worse, and as for Neptune, we've had to re-discover him! According to long-established mathematical law, any such perturbation of the planetary orbits should completely upset the balance of the System—everything should go to everlasting smash. Yet neither the Earth nor any of the smaller planets have budged a mile out of their course.

"Why, with those big worlds losing their momentum, they don't fall into the Sun, is a complete mystery in itself. It seems as if we were being held back from utter chaos by some invisible bond that may snap at any moment. . . . And now you know the worst. I hope it won't keep you awake at night."

"Not after a spell in the front line," I assured him. His news did not disturb me, then, as it did him and his fellow astronomers, who realised its immense significance. "The sky looks much the

same as usual to me, and why worry if nothing has gone wrong? Let's have a peep at things. Anything special on view?"

"There are hundreds of telescopes at work now," said Harvey, closing the big tube round. "We have fixed up a plan of campaign among ourselves—the only sensible body of men on the Earth! I'm one of twenty observers deputed to watch Mars. He's in the field now. Bend down."

I placed my left and stronger eye to the bright dot of light at the end of the tube, and saw the ruddy planet with his two small moons. The familiar markings and the southern polar ice-cap were plainly visible; and I fancied I detected, even in that brief glimpse, the movement of Phobos, the active little satellite that circles its parent orb in less than eight hours. But the constrained position soon tired me, and I made way for Harvey. He gave a sigh of relief.

"Mars all right, then?"

"Yes. Exactly where he ought to be. I'll radio our astronomical centre, and see if they have any news of Jupiter. Carry on."

I bent down and peered once more through the eye-piece. Phobos was just then at greatest elongation. I had been watching perhaps a minute, when the tiny object suddenly blazed out and became an intensely bright star of red flame. Thus luminous, it lasted several seconds, then suddenly and completely disappeared. It was there—it glowed fiercely red—it was gone!

I gave a startled exclamation, and at that moment Harvey came back, his face strained and pale.

"Worse than ever!" he said, shakily. "Jupiter is a hundred thousand miles *ahead* of where he ought to be, and two of the larger asteroids are *slowing down*! Er—what were you going to say just now?"

I told him briefly what I had seen. He rushed to the telescope, looked, and staggered back. The dawning of a great fear, that was so soon to come to all of us, troubled his staring eyes.

"What next, Julian? God in Heaven, what next? This is no mere cause for wonder. It is something strange and sinister. Some unknown force is at work

in the Universe—some unknown, but terrible, force. What can it mean?"

Then, with a sudden change of manner, he bustled about the observatory, gathered his papers together, and announced that we had better go home and get some sleep—if that were possible in the infernal din of the air-raid that was developing along the Bristol Channel. He talked wildly and incoherently, and I was not sorry to leave him. I could not see, even then, what he was so upset about. I was far more deeply concerned as to whether we should reach the safety of our concrete shelters before the Eastern raiders swooped upon the city.

FOR several weeks, things went on as usual. The war dragged along its wearying, destroying course; while astronomers in both hemispheres waged wordy hostilities, with rival theories and strange suggestions. But the rest did not bother much about such far-away things as erratic planets or the disappearance of a little Martian moon. Then came the messages from Mars, and theory gave way to fact, and indifference to fear—to a wave of terror that turned our minds even from the horrors of war.

By what means the Martian intelligences despatched their tiny projectiles across the abyss between the worlds with such accuracy, we cannot guess. They must have been centuries ahead of us in scientific prowess, and altruistic to a degree which our lowly minds cannot imagine. We only know that their messages came to us in a number of small, metallic balls that fell to earth on the night of August 6th and the following day.

So accurately timed and speeded were these projectiles that they fell at almost equal distances apart, and with such motion as to bring them to ground without their being fused by the friction of passing through the air. Many of them fell into seas, lakes and rivers, and others have since been discovered on mountain tops and in all sorts of out-of-the-way places; but all those that were found, and opened, had similar contents. These consisted of a tightly-rolled drum of parchment-like material, and some grains of a greyish powder.

Large numbers of the projectiles soon found their way into scientific hands; and

on the morning of August 8th the puzzled world learned the purport of the message they conveyed, when every radio station broadcast the amazing news which was so eagerly awaited. I, however, was fortunate in having my curiosity satisfied earlier; for one of the metallic balls was found by Harvey himself, on the lawn in front of the Observatory, and we deciphered its meaning the same afternoon.

The day before, I should have scouted the idea of an extra-terrestrial being communicating with us, seeing that we could have not any common basis of agreement as to the meaning of signs. But the Martians knew their job. The method they used was at once simple and convincing.

The first thing that came to view, as we unrolled the drum of parchment, was a wonderfully detailed map of the Solar System. On this, Mars was represented by a peculiar sign, somewhat like a Maltese cross, and a number of lines was drawn from Mars to the Earth when the two planets were at different positions. These positions Harvey marked with their respective dates; and on the day we had observed the disappearance of Phobos, a double line was drawn from Mars to the place of the satellite, for which a splash of pale red was substituted.

"Then it looks as though the Martians themselves destroyed their little moon!" I cried.

Harvey nodded. "Yes. Evidently to attract our attention—or perhaps to make an experiment with some fearful disruptive force. But look at this—and this!"

The unrolled drum now disclosed a map on a larger scale, in which the Sun and some of the nearer stars were shown. We knew the Sun again by the recurrence of the mark used for it on the first map; and between it and the star *a* in Cassiopeia a cloud of tiny objects was outlined, marked with the sign used to denote the Leonid meteor swarm in our System. The orbit and direction of motion of this cosmic cloud indicated that it was approaching us, and it was marked with three other mysterious symbols. But even such an untrained eye as mine could not fail to read that message.

"It means, I suppose, that a large cloud of meteors is coming toward us," I remarked. "Fairly obvious, isn't it? But

why look so tragic about it?" I added, noticing his serious face "An extra-grand display of celestial fireworks will relieve the black-out a bit, anyway."

My friend pulled himself together.

"You don't see what I see, Julian. Do you think the Martians would have gone to all this trouble just to prepare us for an ordinary meteor shower? No; this is a hint of something far more important. Perhaps a warning of death...."

"You will notice that the path of this meteor cloud does not start at *Cassiopeia*, but is prolonged beyond. This suggests that, if the Martians have been able to trace it so far away, the cloud must be of a size and density unparalleled within our knowledge. And here is proof. Here is the Solar System, bounded by a circle including the orbit of Pluto; here is the meteor cloud, with a circle of the same size *within* it.

"Now, here is part of the cloud's path marked off at regular distances with tiny ticks, each representing, I imagine, a Martian year. Let me see...." He did a bit of figuring. "Yes; that's right. And here is the last Martian year, marked off into ten minor divisions. The speed of that cloud must be terrific. I don't care to put it too definitely, but if that speed be kept up, the great stream will be pouring into the Sun in seven weeks from to-day...."

"And the Sun, enriched by the impact of this vast mass of material, will blaze out like a new star. The sudden burst of heat caused by the inrush of that great cloud of meteors will probably destroy all life on the Earth!"

I THOUGHT Harvey was being a little too presumptuous, not to say melodramatic. But, to honour him, I went through the maps again, following his pointing finger and his reasoned arguments as we unrolled the drum of parchment to the end. And when the twilight shadows were creeping across the floor, we sat down and looked into each other's haggard faces—for I doubted no longer. The maps and diagrams were only too convincing; and the end of the roll confirmed our worst fears, besides being an attempt to convey some further information, which, at the time, we failed to comprehend.

On a series of Solar maps, a great number of lines was drawn from Mars to the outer planets, at times and distances easily calculated to agree with the receipt acceleration or retarding of their orbital speeds. That these interferences with the planets were the work of the Martians, who had evidently gained control of gravitation, we were forced to conclude; but what this Solar upset had to do with the Martians' warning message, or what effect it was expected to have upon Earthly behaviour, we could not even dimly guess. Something more than a mere warning was intended; that was certain. But what?

Our knowledge and our ignorance were shared by all the scientists throughout the globe who studied the message; though one curious effect, missed by Harvey, was noted by several other astronomers and caused much speculation. On the map which showed the cosmic cloud entering the Solar System, the Earth, Mars, and the five outer planets were placed in a direct line between the Sun and the centre of the great meteor stream. What did that mean?

I walked home slowly, that night. After another raid, the hostile aircraft had gone, driven off by our ground guns and defence planes. Owing to the black-out and a clear sky, the stars were extremely brilliant. They seemed so still, so steadfast, that it was hard to think of death lurking up there among them. So have they looked down on man for countless generations; yet now I knew that their steady gleam was but a mask of cruel mockery.

When I reached home, my father and mother remarked my pale face and asked many questions. The hints which by then had been given out by the radio had disturbed them, but not unduly. I had not the heart to enlighten them too soon, and told them as little as I could, as vaguely as possible. Talking to them, away from Harvey and those diagrams, I even began to wonder if the danger was real, and whether there might not be some other explanation of the mysterious message. But, next morning, that faint hope died away. My father had gone out, but my mother had a newspaper in her hand when I came down to breakfast.

"Then it's true after all, Julian," she said. "What shall we do?"

"We can do nothing—but what does it matter?" I asked, bitterly. "What does anything matter, now? A few weeks, and we shall all be wiped out of existence."

"It's dreadful. But, still," said my wonderful mother, "our duties and our loves remain the same, don't they? Whether we die to-day, or in six weeks, or twenty years hence, doesn't matter a scrap. What really matters is *how* we live *now*. We must be brave, and mustn't let this threatened horror make any difference to us.

"And perhaps this common danger may put a stop to the war. After all, why go on fighting each other, if we must all die so soon? Already, I see, there are rumours. Even the Dictator is said to be impressed."

My mother's courage stiffened me somewhat; but once out in the street, after hearing the latest broadcast, despair settled upon me again. And as the days wore on and the realisation of awful doom, confirmed by another downpour of messages from Mars, gradually seeped into the minds of men everywhere, despair spread over the whole world. But for the automatic instinct for law and order that upheld the governments, strengthened as it was by military force, civilisation might have crashed to ruin long before the fateful day. That the world was at war, and people must everywhere obey orders, was really all to the good; for with the shadow of universal death creeping nearer and nearer, who would respect any law except that enforced by strength? Who would willingly work, or scheme, or strive for fame, if in six weeks all must die?

By the end of the first week of its awareness, mankind was divided into three factions—those who believed in the certainty of doom, and were afraid; those who believed, and were not afraid; and those who did not believe. Some of the last spoke and wrote, eloquently and scoffingly, of universal experience; antecedent improbabilities, illusions, gigantic hoaxes and the like. You heard many grim jokes as you went along the streets; and you saw people in their true colours. Those you had thought strong and brave, before, were revealed as weak cravens. Others whom you had always regarded as timorous souls were showing unexpected

nerve and courage. Churches and chapels were crowded with people praying for deliverance; while, on the other hand, philosophers and rationalistic thinkers urged Stoic resignation in the hour of inexorable Fate.

THE world was filled with queer rumours and stranger suggestions.

"Here's Chaplow's latest," said Harvey, one day. "It's a daring idea. He calculates the sweep of the cosmic cloud's orbit from the Martian maps, and reaches the conclusion that it completes a circuit in a little less than three thousand million years. If so, the meteors must have enriched and superheated the Sun at least once before. Perhaps that was when the planets were formed."

"Not bad," I admitted. "But what's the use of guessing? We shall never know."

"Of course not. But if Professor Overstein's idea is correct, *that* will make a difference to the outlook."

"And that is——?"

"That the Martians intend to ward off the disaster by some means," my friend replied. "Let me read you his summing-up in the *Scientific Journal*. Here's what he says:

"That the Martians meant to convey more to us than a mere warning of the approach of the Cloud, no one who has studied the messages can doubt for a moment. That this something more is an indication that they will endeavour to avert a catastrophe, seems to me equally certain. We know that they are moving the outer planets, and Mars itself, so as to bring them all in line between the Sun and the centre of the Cloud. On the map which confirms this, we find lines drawn from Mars to each of the outer worlds, each line ending in a sign identical with that on the map showing the destruction of Phobos."

"The one spectroscopic record of that strange celestial phenomenon reveals that a mass of pure hydrogen, of tremendous volume, was suddenly ignited. This hydrogen cannot have come from Mars. We can only account for it by supposing that the Martians know that all the elements are really compounds or variants of hydrogen, and that they can transmute the elements at will; indeed, that, by

means incomprehensible to us, they dissolved the whole mass of Phobos into incandescent hydrogen.

"So, this conclusion is forced upon me. At the moment of the impact of the Cloud upon the outer planets, the Martians will similarly dissolve Pluto, Neptune, Uranus, Saturn and Jupiter, thus opposing the meteor stream with a succession of flaming hydrogen shields. These fiery outbursts will fuse and dissipate the meteors into thin clouds of harmless cosmic dust, which, with motion checked and altered, will swing round the Sun in erratic orbits, to become helpless members of the System.

"That the grains of grey powder sent with the message in the projectiles were intended to prove this, is evidenced by the fearful explosions which have taken place in several experimental laboratories. In each case, large quantities of hydrogen gas have been released and consumed. . . .

"So far, I feel I am on sure ground. Dare I go further, and suggest that the last map of the series indicates the possible self-destruction of Mars itself, if the dissolution of the other planets should prove insufficient to disperse the Cloud? With the message and the maps before me, I unhesitatingly affirm that such is my belief. . . ."

"Well?" asked Harvey, as he finished reading. "What do you think of it?"

"Seems quite feasible, except the last suggestion," I replied. "That seems too fantastic—unless we suppose the Martians to have reached such a pinnacle of cold reason that they can calmly contemplate world suicide! Even then, what good would it do them? They're doomed, anyway! It just doesn't make sense to me."

"I think I see an explanation," said my friend, quietly. "It is evident that the Martians are aware of our existence. What if the destruction of their own world should produce the last flame-shield necessary to save us from death? May not their final message indicate an act of supreme self-sacrifice on the part of a whole world?"

The idea was so startling that it rather stunned me, at first. It seemed so fantastically unlikely. And yet, on second thought, was it so unlikely? If the Martians had surpassed us in knowledge and control of Nature, why not in

altruism, in self-abnegation? Besides, as I suggested to Harvey, it might not be such a noble deed, after all. It might be that if they did not destroy themselves in an effort to save us, their world and ours would both be wiped out of existence in the general Solar catastrophe; and they might have some reason for preferring that Earth should be spared rather than Mars. Perhaps even now, it occurred to me, they were preparing to transfer their race to our younger planet, in order that they might survive the longer.

"There's that possibility, certainly, Julian," he replied. "I've no doubt they would be capable of organising such a migration through space. Indeed, Overstein himself hints at just such a possibility, later in his article. But, then, as he says, Mars is so much farther away from the Sun than we are that a rise of Solar temperature fatal to us might merely make their planet warmer, more comfortably habitable. However, only time will tell. Rest assured that the popular papers will be full of it tomorrow. All this speculation is even crowding out the military news."

"By the way, Professor Overstein is a great friend of the Dictator. If that swollen-headed autocrat has any remnants of common sense left, he will call the war off—or, at least, propose a formal armistice until we know the worst."

AS IT happened, the Dictator was so far human that he did actually suggest a cessation of hostilities for the time being, but he also reserved the right to carry on the war with the utmost vigour if the threatened cosmic disaster failed to materialise. The whole world breathed a sigh of relief; though it was only a sigh, not a feeling of joy. For what did it matter, men said, whether they died by bomb or shell or gas, or by the flaming breath of a superheated Sun?

Other pens than mine must tell the full story of those days and weeks of agonised suspense. My leave extended, I stayed at home, spending most of my time between my home and the Observatory.

Harvey's reading of the Martian messages, endorsed by Professor Overstein, was generally accepted by the scientists; now, and the world felt itself under sentence of death. But for the

gleam of hope in the Professor's idea of the Martians' intentions, and in my friend's final suggestion, I believe that civilisation would have crumbled rapidly, in spite of the iron control of military force.

As it was, whole regiments and divisions of soldiers deserted their posts on both sides of the concrete front lines. Threats, punishments, even wholesale shootings, failed to stop the homeward drift. The cry of every human heart was for the company of his own folk in the last, dreadful hours. The war, business, politics, all sank into utter insignificance, and all supplies except the bare necessities of life fell alarmingly, even at famine prices.

The Christian churches throughout the world announced that they would all be open on the Last Day; Buddhists spoke of the peace of Nirvana; Moslems thronged their mosques and lifted hands to Allah; and the few advanced thinkers in all countries counselled calm and courage, urging that man should maintain his dignity even in his darkest hour, whether a further lease of mortal life, or glory inconceivable, or death eternal, awaited one and all. I never want to live through such days again. I should like to forget; but those memories haunt me, and colour all my dreams with horror. . . .

The moment of contact between Neptune and the Cosmic Cloud arrived at last. Pluto, it appeared, had not been brought into position in time. For several nights we had had fine displays of shooting stars—the advance guard of the great stream—and now was the time to test Overstein's theory. Harvey and I were in the Observatory. He was at the eye-piece of the big tube, and I had a smaller telescope trained on Neptune, when suddenly he cried out excitedly, taking the words out of my mouth.

"Look! Look! It's true! The Martians are at work!"

Where the minute orb of that distant planet had shone, a moment before, was now a splash of intensely vivid light, the light of blazing hydrogen. Our reading of the message was perfectly correct: the Martian intelligences were fighting the great Solar peril. That thought, familiar enough now, struck me at that moment with staggering force. It seemed too

marvellous, too good to be true; yet true it was.

In less than an hour, the blazing flame of gas that had once been a planet dimmed and disappeared. How many millions of meteors had been fused to harmless cosmic dust in their headlong flight through that shield of flaming hydrogen? How many more millions followed? How many millions of millions?

News of the destruction of Uranus came later, determining the speed—now rapidly increasing—of the Cosmic Cloud, and fixing the probable dates on which it would reach Mars, the Earth, and finally the Sun. Saturn's annihilation was indiscernible, owing to heavy clouds in most places; but the hydrogenising of the mighty mass of Jupiter was visible even to the naked eye, and was a sight never to be forgotten. A few stray meteors shot across my field of view, and their luminous trails had scarcely vanished when the huge disk of the giant planet melted into nothingness. A moment's blackness, and then in place of the belted orb came a swiftly expanding cloud of flame, glowing as with the sustained blast of a furnace, shooting out fierce, red tongues of fire around its jagged circumference.

The sheet of flame endured for several hours, and in every second of that time it was swallowing in its capacious maw myriads of those restless, hurrying enemies of ours, dissolving them to ghostly dust. We felt a thrill of hope; yet our suspense was not yet over. The Martians were fighting for us, and for themselves, but would the sacrifice of the outer planets be sufficient to save us? We could not tell.

CAME the evening when we should know for certain whether we were to live or die.

According to the calculations of the world's astronomers, we should learn our fate in a couple of hours after I reached the Observatory. I took my parents along with me; I simply had to be there, and I could not leave them alone. On our way, we saw in the faces we passed in the street all the shades of fear, from nervous apprehension to sheer panic. Once we encountered a group who were singing and praying, but the scared expression in their eyes belied the courage they professed. Shak-

ing off the trembling hands one zealot laid upon us, we hurried on.

Save for a few drifting clouds, the night sky was dark and clear, with no Moon. The whole world seemed plunged into a dreadful silence. Waiting in the dim observatory, we had little to say to each other: there was nothing worth saying. But I was thinking, I remember, something like this:

The Martians, with their superhuman knowledge, have probably some idea of the total amount of meteoric matter in the Cosmic Cloud. Knowing this, and how much they have already destroyed, they will know if what still remains is likely to raise the Sun's heat beyond the safety-point. They will also know if the dissolution of their own planet would save the Earth, Venus and Mercury. If Mars destroys itself, it will mean that we may live; if not, it will mean that even Martian intelligence is beaten, and that only death remains for us.

I was roused from my uneasy speculations by Harvey snapping his chronometer-case. The estimated moment had passed—and Mars yet existed! No news had come from the Eastern observatories which would see the red planet before he swam into our ken.

"We had better wait and see for ourselves," said Harvey. "Calculations may not be absolutely correct. The speed of the meteor cloud may have varied more than we reckoned upon. And perhaps, after all, the danger may have passed. The Cloud may already be sufficiently weakened."

I could see that he was trying to find some ray of hope, both for Mars and ourselves. He considered the other possibilities.

"Though, if they had foreseen that, one would think the Martians would scarcely have troubled to send us such elaborate warnings. It seems as if they expected the need for their self-sacrifice from the very first. Yet the balance of mass between life and death may be very fine. They may even be delaying action, now, because of a concentration of meteors in the tail of the stream."

So we waited, while the night grew darker. Half an hour later, a brilliant streak of light shot across the sky. It was followed by another, and by many more,

until the heavens seemed riven by a thousand lances of fire. The meteors—the harbingers of our fate!

The sight held us fascinated, as the meteors came scattering to right and left from the radiant point where Mars would shortly rise. To west and east and north they sped, a veritable hurricane of falling stars. Their number was incalculable; and as their radiant point rose above the horizon, the light of their intense incandescence began to hurt our weary eyes, so that we had to rest, to wait.

Once or twice, I went to the doorway of the domed building and looked out across the Downs to the great span of the Suspension Bridge. There was no traffic passing; the trees stood grey and still, and the glow of the falling meteors sparkled in the quietly-flowing waters of the Avon, far below. Then Harvey suddenly cried out, calling me inside, a note of excitement in his voice.

"What do you think?" he shouted, smiling grimly. "The Dictator has committed suicide—blown his brains out! He thought we were all doomed; all his ambitions crashed. What a relief! And yet . . ."

"And yet," I completed for him, "who cares? It's good news come too late. But is Mars visible yet? Let me look."

He waved me to the chair under the big tube, after taking a brief glance himself. In silence I peered into the eye-piece, and saw the ruddy disk of light that came to us unimpaired across forty million miles of space—the light that told us Mars still lived.

MARS lived. Then the Cosmic Cloud was too vast even for Martian intelligence to defeat. Mars lived—and therefore it and the Earth must die. Was this to be the end of man's long struggle upwards from the protoplasm of the primal sea—the Purpose of the Ages?

At that moment came the sound of feet on the road outside, voices pitched in the key of despair, and a woman's choking sob. All the world knew, then, that hope was lost. Universal radio had carried the dread news round the globe. The horror of it struck me, at that moment, as it had never done before, and out of the dim shadows under the great dome, my

imagination fashioned a vision of the Earth's death . . .

I saw the countless meteors shooting through the air, and knew that for each one that fell to earth in dust, ten billion more sped on towards the all-devouring Sun. I saw fierce, new spots upon his golden disk, and new flame-prominences round his rim, as though, hungry and insatiate, he reached out greedy arms towards his planetary children. I saw his colour change to an angrier red, and felt the burning heat of his rays grow more and more intense, from tropic dawns to noons in which no man could live.

I saw the temperate zones, fast followed by the tropics, recede to north and south, even to the shuddering poles. I saw the snow-caps of the highest hills run in warm flood, and the hoary glaciers melt and disappear. The grass went dry and brown where it did not actually burn, and the forests became raging infernos of fire; while the seas bubbled and boiled, and filled the storm-racked atmosphere with vast clouds of scalding steam. Finally, I beheld a charred and blackened Earth, a dull, warm cinder revolving in the void; a sphere on which there was no life, neither of man nor beast, nor fish nor fowl, nor creeping thing nor germ, nor tree nor bush, nor herb—a world of dry death, and utter desolation . . .

Quickly as it had come, that fearful vision passed. All was quiet in the observatory. My father and mother, their hands linked, were looking at me. Harvey sat with his head cupped in his hands. But I could not rest; I felt that I must do something. I went back to the telescope.

I had not been watching Mars more than a couple of minutes when the red planet melted suddenly into the sky, showing again swiftly as a great, expanding sheet of flame, shot through and through with points of yet more vivid fire. I cried out the news, dragged Harvey to the sight.

That cloud of consuming hydrogen seemed to last a long time. We saw it

glow and change; saw it fade and merge into the blackness of surrounding space. Harvey spoke into the microphone, and radio voices answered, confirmatory, exultant. It was true, after all. Mars had died, that the Earth might live. Those unknown intelligences had warned us of the peril, had told us their desperate resolve, and had made the last supreme sacrifice to avert the full fury of the Cosmic Cloud.

Though we know it to be true, even yet it is a thought that staggers our puny human understanding—that a whole world should sacrifice itself for another; that a race of god-like beings should blot itself out of existence so that a less intelligent race might live. But, as I remarked in the beginning, though we have speculated often about the Martians, we do not know what they were like; nor shall we ever know . . .

The meteor display continued vividly for several nights, then diminished rapidly, and ceased within a week. The next two winters were exceedingly mild, and our summers almost tropical, even in England and as far north as Iceland. The whole globe has revelled in a more genial climate since that fateful night; and the Earth is now the largest planet of the Solar System, and save for distant Pluto, the outermost world.

One other outcome of the averted catastrophe I must mention. The common peril has knit mankind together as nothing else could have done. With the death of the Dictator and the melting away of the armies, peace came to the whole world—a peace that we hope and believe will last. War is now seen to be criminal and fratricidal folly; for the noble example of the Martian self-sacrifice has exerted its influence upon us all.

In saving us from the Cosmic Cloud, the Martians have helped to save us from ourselves. If only we could have seen, have known and had communion with those lofty intellects!

With That Astounding Machine He Created For Himself An Artificial Paradise . . .



LADY OF THE ATOMS

By

MILES J. BREUER

Author of *The Book of Worlds*, *The Einstein See-Saw*, etc.

WHEN Professor Grimm laid down his work and decided to go home, he changed into a different man:

"Seven o'clock. Time to quit." He sighed with regret at having to leave his beloved apparatus. He picked up some pieces again, fitted them into the big machine, lingered awhile, then tore himself resolutely away.

All day, while he worked in the laboratory, he was keen, alert, full of enthusiasm. His pencil drove swiftly over sheet after sheet of paper, leaving them covered with calculations too abstruse for ordinary mortals, or his eyes and fingers searched busily among the leaves of his library. But, most of the time, he hovered devotedly all around that vast and complex mass of apparatus at one end of the big room.

He had as much energy as the great waterfall whose roar could just be heard through the windows, and which supplied him with inexhaustible power for his experimental work in intra-atomic physics. His eyes shone brightly; he never seemed

to tire. It was evident that he loved the work.

Then came quitting time. A vacant, discouraged expression came into his face, and his figure drooped, as though there was nothing else in the world for him. He was like a lover driven from the side of his fair lady into the wilderness.

To look at him, as he went slowly down the street, you would think he was one of those dry, lifeless scientists who care for nothing, know of nothing but archaeopteryx or eclipsing variables. The careless hang of his clothes, his unshaven chin and his general air of absent-mindedness seemed to suggest that he was a man so absorbed in his work that, indeed, it was all that existed for him.

But Professor Grimm was not that dry. There was, in fact, a good deal of the adventurous and romantic in his make-up. What else could account for the wistful look that came into his eyes, and his lagging steps, when he passed the cinema where exotic scenes from some romantic epic were pictured on the billboards? He almost stopped before the colourful poster

depicting the hero, in doublet and hose, defending a lovely lady's honour with flashing sword; but he pulled himself together, shrugged his shoulders, and resumed his walk homeward.

Again he forgot himself for a moment when a young man and a girl passed him, arm in arm, blissfully unconscious of everything but each other. He hesitated, too, at the window of a travel agency full of views of picturesque scenery and bathing beauties. But each time he braced himself and went on, resolutely.

He reached home dejected and weary. The house was full of bright, resplendent rooms, in one of which was a glittering dinner-table. His wife appeared, a vision of artificial glory, product of all the modern arts designed to enhance feminine beauty, and delightful to look at.

"Hurry, dear," she said, in a voice that tinkled like a silver bell. "Our guests will be here soon."

But, to Professor Grimm, the tinkle in her voice was cold and distant; and the tone of it conveyed to him, if the words did not, that he was late again and that his appearance would not be presentable to the distinguished social captures his wife expected.

SO IT was every evening, except that sometimes her impatience at his tired condition and unkempt look was scarce concealed. On occasions, he would make his appearance among the guests; on others, he would not. It did not seem to matter, either way, for he was hardly noticed as long as he did not get in the way.

The gaiety always lasted until late, and he would leave the guests and go to bed early, because he had work to do in the morning. His wife would sleep until noon, and he would never see her again until evening, dressed for another function. When they had opportunity for conversation, which was rarely, it was always dominated by her intense social ambitions and a pouting impatience at the work which kept him so occupied, and prevented her from showing him off to her guests.

"I'll come over to the laboratory one of these days, and smash up those silly machines," she complained. "You never seem to have any time for me."

Few readers, perhaps, will take this little story very seriously, but it is none the less delightful for that. And though it may seem to savour of the impossible, we cannot deny that, once we have thoroughly mastered the secrets of the atom, there will be no bounds to the miraculous things we may accomplish in the laboratory. This is another of Dr. Breuer's tales which we are reprinting from *Amazing Stories*, where it was published under the title, "The Driving Power."

If he had not been a scientist, accustomed to shaping intangible ideas and putting them to practical use, he might have retorted that it was her social-climbing nonsense that kept her away from him, and that his work was of more importance. But because he dealt in nebulous things, which did not always materialise, he had to excuse himself by explaining:

"I have a rather big idea to work out, and it needs a lot of time. But, if it does work out, it will bring in a lot of money."

That usually contented her, for money was necessary for beautiful clothes and entertaining. But Professor Grimm was far from being contented. His wife was no wife at all. He had no constant companion with whom he could share his problems, his ambitions and successes. He had only his work, to which he clung with such tenacity. His researches into the ionisation of solid bodies, and his concrete realisation of perfect high-density gases—these were his wife and love, and took the place of the romance which was missing from his life.

"Still," he reflected, "perhaps it's just as well. People who have all they want never give much to life. There is no incentive to further effort. If I were as happy as Puckner is with his wife, going off on one honeymoon after another, I suppose I should never have worked out my Integrator."

What was this Integrator, which filled the Professor's days, which occupied his thoughts at night, and at which he worked

so enthusiastically? It was a truly astonishing thing, before which its own creator sometimes stood in awe, scarcely able to credit the miraculous powers it vested in him as reward for his strenuous labours.

That day, he had tested it out again, and witnessed its amazing performance. While the huge generators were starting up and the glowing platinum targets were warming, he had sat at his desk working his slide-rule and jotting down figures, his "pattern" equations. Then, with his eye on a stop-watch that showed fifths of a second, he had moved switches and pressed keys.

In the centre of the big room, the air had swirled in a spiral and become a nebulous cloud. The cloud had condensed—and there had been a brick of clay, a bar of gold, a piece of ivory, or a mass of fibre or jelly.

NEXT morning, he was practising on more complex things. He spent more time with his pencil and slide-rule, and got a blooming rose, and a wriggling worm, by substituting different values for the terms of his equation and setting his experimental quantities according to the resulting "pattern." A bold attempt resulted in a little monkey, which scampered chattering about the room until the Professor shut off the power, whereupon the animal melted away and vanished into thin air.

He tried another combination, and there appeared a tiny machine of whirring wheels and clicking levers, working away merrily; and when he opened the switches again, it dimmed and was gone, with a rush of air through the windows and an electrification of everything remaining in the room by the dissipated charges.

To the ordinary man, such feats as these would seem to be explained only in terms of magic. But, to Professor Grimm, they were a matter of intra-atomic physics, very accurate and complicated; so highly complex, indeed, that it would spoil any pleasure which the average reader may derive from this account if the full technical details of the process were to be included here.

However, it will be sufficient if he is assured that certain electro-magnetic vibrations have the property of displac-

ing electrons from the outer orbits within the atom, leaving an unsaturated atom with an intense avidity to combine; and that Professor Grimm had accomplished more in the generation of large volumes of these short-wave X-rays than any man of his time, with the aid of the power available from the great waterfall near his laboratory. So, with his streams of short-waves, he had an unparalleled opportunity of observing the behaviour of these unsaturated atoms.

By condensing the vast numbers of ions he obtained, he turned gases into solids of differing composition. He worked with air in his early experiments, and so produced masses of marble—marble, perhaps because the cloud of loose atoms that wander about in space consists mostly of calcium. But his blocks of marble were shapeless. Could he determine beforehand what shape they would assume? Could he produce substances other than marble? Could he manufacture a complex mass of a dozen or more elements?

From those first steps to the finished Integrator is a long story. The relation between the components of a complex body and their evolution from simple ions; the accurate control of the bombardment of free atoms by short-wave X-rays; the ability to separate one electron from an atom of nitrogen, or two or three—it is tedious, mathematical stuff. Curious indeed were the bodies he built up by rearranging and condensing the ions; fantastic blobs of stuff that twisted and writhed, then changed into something else.

No wonder the fascinating work absorbed him so intensely; yet he could not have endured that long, nerve-racking concentration unless he had been driven from the distractions of the outside world by his inner despair. Still, the final achievement was worth all of the effort. He had a sense of god-like power, of limitless potency, when he thought of what those rows of short-wave tubes could accomplish at his touch.

For, now that he had worked out the proton bases and the electron patterns, he had achieved automatic control of wavelengths and radiation densities, and was learning to make what he pleased out of his condensed ions. It was merely a matter of getting the pattern right to start with; and the object would then develop

itself, providing there was a sufficient supply of energy.

THAT evening, he walked home in a daze. He did not even glance at the cinema posters; the laughing couples passed by unheeded. For, just as he had been leaving the laboratory, an idea had suddenly occurred to him; an idea so tremendous that the force of it had stunned him. It was something that the Integrator could do for him—and it was something even bigger than the Integrator itself.

When at length he came out of his daze, he looked around at the grey world that had left him so forlorn, and his heart leaped wildly with anticipation. Now, he could have the happiness he craved—he could make it for himself!

His wife was all ready to set out for a theatre party. Her beautiful gown and tinkling voice invited him. No; he didn't want to go. He never did want to go, and to-night he wasn't even in the same world. So, his wife went off alone; while he, with head throbbing and heart racing with excitement, went back to the laboratory.

The Integrator, with which he was to work the miracle, stood at one end of the vast room, which otherwise was almost empty, leaving large areas of bare floor, walls and ceiling. He opened all the windows wide: he would have to draw on the atmosphere for large quantities of matter. Then he sat down at the pattern-board of the machine.

A whole hour's calculation was necessary. His pencil, slide-rule and book of integrals were fully employed. His results came out in milliamperes and spark-gap lengths, and he manipulated the switches and rheostats accordingly. Then, before his eager eyes, grew his dream.

First, swirling nebulae. Then vague shapes took form in the depths of the fog. They rolled like smoke, and changed. Soon, he could see trees; soft, green grass in their shade; flowers, and a gravel path. Then there was a picturesque cottage, and through its windows, glimpses of a bright, cosy room with lamps, draperies and a divan. And last—and best—of all, a beautiful woman!

She materialised in the doorway of the cottage, in a simple gown of soft silk, a gentle smile on her lips. She seemed to

be waiting for him. He made certain that the machinery would continue its smooth running, and walked towards her up the gravel path.

"Are you real?" He could not help but ask the question, though it sounded foolish, and he did not under-estimate the capacities of the Integrator.

She held out her hands towards him. "Real—and waiting for you."

They entered the cottage and sat down on the divan together. She was real enough. Her hands were soft, but there was a firmness in their grasp that he liked. He touched her shoulder, and her cheek. They were real. She smiled at his doubts.

"Do you believe I'm here, now?" she asked.

"What is your name?" He felt he must know.

"Amaranth."

"It's a nice name. Sounds just like I feel."

She brought him some lemonade. He began to wish he were more carefully dressed, for she seemed interested in him; her eyes were always on him. They talked a good deal, in the process of getting acquainted. She was intelligent, and talked well; she had a good sense of humour, and her radiant cheerfulness made him feel rested. As the evening passed, he forgot all his troubles, and the grey world without. He was happy.

"I shall see you again, of course," they both said when he took his leave.

BEFORE he shut off the power, he checked his patterns most carefully, so that he would be sure of their accuracy when he wanted to repeat them, and that everything would be just the same again. Then he shut off the generators, gradually, one after another. There was a dimming of the scene of paradise before him; and he had a vague, fleeting feeling that he was killing, destroying somebody, but he reassured himself with the thought that he could reproduce it all-to-morrow. It faded, and was gone.

There was a momentary sense of extreme pressure in the room as the disintegrating molecules expanded, and before the open windows released the excess atmospheric density. Then the room was empty again, except for the Integrator; and the Professor went home through the

night, a feeling of supreme contentment inside him.

The next day seemed endless to Professor Grimm. A blaze of bronze hair and a pair of soft, round arms would not stay out of his mind. Even when he was at his busiest, he could hear in the background the low, musical tones:

"I shall see you again, of course."

When at last evening came, he dressed carefully, and sallied forth spruce as any young swain. Back in the laboratory, he sat before his switches and patterns. The idyllic scene materialised again at his touch: the trees, the green grass, and the country cottage, with the lovely Amaranth at the door. Everything was exactly the same as before.

As Amaranth gazed with large, blue eyes at her creator, the eager pressure of her soft, warm hand on his sleeve thrilled him through and through. She brought him a grape-fruit, this time, with some slices of sponge-cake, and a luxurious cushion to make him more comfortable on the divan. To add to his bliss, she sang a lilting air at the piano, while he feasted his eyes on her.

And so the electron patterns were repeated many times, and much power was used from the waterfall. Day after day, the Professor, after a hard day's work, would make a brief appearance at his home, then hurry back to the laboratory and the artificial paradise which awaited him. There were long hours of sweet companionship, soft arms about his neck, and rapturous communions of perfect understanding.

Professor Grimm knew all the happiness he had ever craved, and more. He was a changed man. His friends noticed the difference in him—and so did his wife.

"Your work must be going well," she suggested. "You seem livelier than you used to. What is it this time?"

"Oh, just a little machine," he told her evasively. "That idea I told you about. It's quite a success, and if I can sell it to somebody like Amalgamated Amusements, there should be a few thousand dollars in it, I fancy."

It sounded good to her. She wanted to see it for herself. He took her to the laboratory, and made flowers, gorgeous gowns and motor-cars appear out of nothingness before her startled eyes. But

the wonder of it was not so impressive as the figure it would sell for.

"It's worth a million dollars—no less," she decided.

WEEKS lengthened into months, and Professor Grimm was still full of happiness. But he was still without the cheque for a million dollars. His wife grew impatient.

"Haven't you seen those people about selling that machine yet?" she asked, more than once.

"No," he told her. "I'm still working on it. I'm not satisfied to let it go as it is. Besides, I'm thinking of offering it to somebody else—to a manufacturing firm. It's worth more as a producing machine than it would be as a mere novelty to give amusement."

"You're too particular. It doesn't matter whom you sell it to, as long as you get a good price for it. It's taking up more of your time than ever. I'll come over there one evening and drag you away from it, if you don't stay home a bit more. You're making me jealous of your old machine!"

The Professor felt a little guilty, after that. People thought he was working terribly hard, when all the time he wasn't. And, really, he should be. He had an idea on solar power to tackle, and he couldn't seem to get down to it. He was happy and satisfied. He didn't want to work.

Some of his friends, with whom he had grown so popular now that he was such a bright and breezy fellow, began to talk. While they were delighted at the transformation in him, they were rather disappointed in the effect it seemed to have had on his work.

"He's full of ideas about solar power, and I've been waiting for something big, but he doesn't seem to be doing anything. He's still got the same apparatus in his lab, that he's had for months."

So they commented; and Professor Grimm could not help hearing these complaints, by roundabout paths. He sighed, and the world seemed almost grey again.

"Obviously, progress and contentment do not go together," he mused. "Men who are happy can't accomplish much."

He brooded, and was sunk deep in melancholy for several days, during which he never touched his patterns. Then, one

evening, he returned to the laboratory and started the generators. Things had gone all wrong. He was miserable and depressed. He had to see her again . . .

In her arms, in the little cottage, his tortured soul was soothed. He forgot everything but Amaranth; her bronze hair, her melting smile, her sweet devotion to him. Until, somewhere in the background, a dull pounding, hammering sound intruded. He tried to ignore it, but it persisted. Then he realised what it was.

Someone was at the laboratory door, and was banging on it furiously. Had he locked it? An awful, guilty fear seized him. He didn't want to be caught like this.

"Charles!" came a voice that, on this occasion, did not tinkle as it usually did. He leaped up, and ran to the switches; shut off all the generators in a single sweep of his hand. Then he hurried to open the door. There was his wife and, behind her, two men, looking very business-like.

BEHIND him, the paradise created by the Integrator had faded; the hum of the generators was dying down. But he had shut off the power so abruptly that the big room was full of swirls and currents. A blast of air blew out of the opened door, and the windows rattled. His ear-drums clicked with the sudden pressure. Papers blew about; a stack of them went sailing off his desk, and his hat flew through the nearest window.

His wife gasped, and clung to the door-handle for support, as the cyclone whirled about her. But, when the rush of air died down, she regained her supreme calm at once.

"Darling," she said sweetly. "These gentlemen are Mr. Rosenthal and Mr. Lasky, of Amalgamated Amusements. They say they never got your letters about the machine at all, but they were quite ex-

cited when I told them all about it. They have a cheque for a million dollars all ready for you. Isn't that nice? I know you won't mind the interruption, will you, dear?"

The Professor stood and stared at her, blankly. There was a confused roaring in his head, and he could not speak. Sell the Integrator? Lose Amaranth? Be miserable again—for ever? Was it worth a million dollars—which his wife would spend for him? The prospect seemed appalling. Then, on the other hand, he really ought to be working on that solar power idea. Great things were expected of him; his fellows were talking, and it was only the Integrator that kept him from making a start. He groaned. He couldn't decide.

His wife stood there gazing at him, puzzled, while the two business men waited respectfully. He passed his hand over his forehead, as though to clear his fuddled thoughts, then sat down at the Integrator. He reached for his patterns, and realised with a shock that they were not there.

He rushed to the window, through which his papers had flown on the swirling air. He leaned out, peering through the darkness. There were white sheets floating on the river below. He sank back. All his patterns, those careful calculations . . . Then, with a sudden movement, he shrugged his shoulders and pulled himself together. He turned to the two men.

"Would you like a demonstration?" he asked quietly.

"It doesn't matter, now. We know you. Let's close the deal right up, and you can show us how it works to-morrow."

Professor Grimm signed the paper, and took the cheque from the fat, red-faced man. His wife looked on, beaming. He passed the cheque to her without even looking at it. His eyes were far away.

"H-th-m," he was saying. "Solar power . . . To-morrow, I must look up Langley's stuff on the pressure of light."

*When Man Gave Up The Desperate Struggle Which Had Gained
Him Supremacy, He Condemned Himself To Certain Extinction*



THE INSECT WORLD

By THOS. S. GARDNER

Author of *The Last Woman*, *The World of Singing Crystals*, etc.

The following is an official communication to the Scientific Council of Eo, Planet Two of the Blue Star, from the leader of an interstellar expedition organised on its behalf.

GREETINGS, Honourable Councillors!

Our journey was singularly blessed by the discovery of the most remarkable planet that has ever been reported during our explorations. This record concerns the Third Planet of the Red Star; classification, MG-11. I hardly expect you to believe all the amazing things I shall relate, but in proof I offer you brain-records of all the intelligent types we found on that world.

We entered the system after travelling for one-tenth of a radioad* at the maximum velocity. The central luminary was far advanced in age, and rapidly approaching a condition of heat-death: in a quarter of a million radioads, the Red Star will cease to radiate. There were nine large planets, with a belt of planetoids lying between the fourth and fifth, and around the sixth a triple ring of planetoids revolved. But the only planet of interest to us was the third.

This planet has one satellite, smaller than itself, and although its diameter is many times that of Eo, its gravitational pull is the same. It once possessed extensive expanses of water, but they have long

* Radioad: Half-life period of radium; about 2,000 years.

since dwindled. Complete geological details will be found in the accompanying reports; but it is necessary that I should deal here with its biological state in order that you shall properly understand what I have to tell you in this communication.

The planet still possesses abundant flora and fauna, despite the fact that the ice-caps have crept far down from the poles; and we were surprised to find intelligent life existing yet under conditions that were fast becoming intolerable. We were, too, further amazed to discover a new type of civilisation to add to our archives—Socialisation.

There were three main, and quite different, forms of intelligent life that exhibited this development. Two were related—bees and ants, and the third very distantly connected—termites. We searched for other forms, but could find none, nor traces of any, and so we assumed that no other form had ever existed. But in this we were mistaken, as you shall perceive.

Each of the three types had been broken up into many thousands of species, which showed all the stages of civilisation, from the most primitive groupings to complex collections of hundreds of thousands of members. In size, the largest species is only slightly greater than the average Foian. The three types are mostly antagonistic to one another, and fight continually, while all maintaining peace and harmony within their respective types.

We first encountered the termites, who

live in tremendous communal dwellings rivalling our largest buildings, and carry on divers activities. They rear the individual from the egg to perform a particular duty, even as we do; their soldiers are born soldiers, and their division of labour is perfect. We noticed that nearly all the members of the community were females, and learned that the males appear only at certain seasons. Another unusual thing we observed was that, although they were intelligent as a group, no individual termite seemed to possess intelligence. On examination of single members, we could find only automatic reactions; yet they all performed their work in a manner thoroughly efficient. So we discovered a new phenomenon — racial intelligence.

WE BROUGHT our space-vessel close to the entrance of one of the larger termitaries, and made our way inside with our scientists. The termite soldiers opposed us with great valour; although having no weapons apart from their natural armament, they threw themselves upon us, and we were obliged to destroy many hundreds of them before our mental experts could impress on their group mind the assurance that our mission was peaceful. Then, every one seemed to receive the idea simultaneously; they ceased their heroic battling, and immediately started to clear up the dead bodies of the fallen by the simple process of eating them.

After that, we were free to wander at will among these creatures. By some strange means, our harmless intentions were communicated throughout the planet, so that no termitary was closed to us. We found that they tunnelled under rivers, raised crops, heated their dwellings by decaying organic matter, and lived principally on cellulose, which they digest with the help of protozoa in their intestinal tract. They have several queens to lay eggs at a prodigious rate in a great, vaulted chamber; and these queens are many thousands of times bigger than their largest soldier—about the size of our space-cruisers.

While our scientists were collecting data among the termites, we read in their minds, though quite by accident, the hazy memory of a gigantic race that once had

Here is a story that, for all its shortness, must delight those of our readers who have been asking for more ambitious tales of space-travel. It is the work of an American writer who is new to our pages, and presents an interesting commentary on one of the most controversial questions of the day, as applied to the larger sphere of man's existence in the distant future.

inhabited this planet. It appeared that these creatures were mammals, and if that were so, it is the first time in our travels through the systems that we have learned of mammals which developed intelligence. Strange and varied are the many forms of intelligent life that we have encountered, from the singing crystals of $X_{12}-O$ to the walking plants of $W_{02}-A$, but never in all our explorations have we heard of intelligent mammals. Truly, a remarkable accident—and a remarkable race. . . .

This gigantic species, which had called itself *man*, had dominated the planet, using its resources and metals recklessly. The termites could provide us with little information regarding the ancient race, except of powerful machines with which they had delved into the ground and constructed colossal cities. However, we did learn that the termites had played a part in their extermination, as I shall relate; and we divined that the ants and the bees—especially the bees—could tell us more about them, as they lived in the sunlight as man had done, while the termites loved the darkness.

So, we set out in our vessel to locate the bees and ants, sending out mental calls to them as we searched. Many times we landed in colonies which had responded to our signals, but found them too low in the scale of civilisation to assist us. At last, we discovered a colony of black ants that were tool-users: you will see from the preserved specimens I am sending you that they are very strong and adaptable. They lived in underground communities of elaborate tunnels, and not only prac-

tised the arts of husbandry, agriculture, and slave-holding, but were also excellent warriors.

It seemed that they had developed out of several higher species which had existed at about the same time as man; and we have reason to suspect that, if man was as intelligent as the minds of the ants suggested, he may have had a hand in their evolution. When we landed near them, many ant soldiers rushed out, clicking their mandibles and picking up small stones to hurl at us, and again we had to slay the advance guard before peace was established.

THE ants' civilisation is not so completely unified as the termites'; their minds are more like our own, and possess more individuality. We had been among them but a short time when we learned that they were in constant warfare with a lower species near-by, and that their savage cousins often waylaid and devoured the more civilised ants. Seeing in this an opportunity to gain their whole attention, we offered to exterminate their enemies in exchange for their aid in amassing data on the ancient race of man.

They willingly agreed, and the next day we blasted the entrance-ways of the menacing colony and filled the tunnels with poison gas. On our return, our hosts brought to us for examination a type of creature entirely new to us, called wasps. They were intelligent to an extent, but far inferior to the ants, who had procured their assistance as messengers to a distant colony of the honey-bee. I gave them a message for the bees, and they rose into the air on noisy wings.

In a few days, the wasps returned accompanied by beautiful black-and-golden creatures, the honey-bees, who had come closest to man when he ruled the planet. Their minds told us that man had improved their species far more than they were willing to do for themselves. I was puzzled at this, and found on inquiry that man had desired of the bees a sweet substance which they concocted, with which to flavour his food. They gave us some, and on tasting it we could understand why man had gone to such pains to assist the bees:

However, of more importance was the fact that stored in the minds of the bees

was the memory of the part which the termites had played in man's decline and final extinction. It appeared that the termites had literally eaten man off the planet—not by devouring his body, but the materials he worked with. There were also indications of a great change in man himself, which had helped to bring about his own destruction. But we could obtain only the vaguest kind of information from the bees; so we tried to ascertain if they knew of any relics which man had left on the planet.

They confessed their ignorance, except that a few dimly remembered that another colony of bees on the other side of the world had knowledge of some such remains. So we set out once more, to locate these creatures; and at length we found them living in a great cliff in a warmer, semi-tropical region. They readily consented to show us where the relics were, and led us to an ancient territory. Penetrating it, we were received kindly by the termites, in whom we sensed a difference from those we had first encountered. They seemed more understanding in their attitude towards us, and admitted that they not only possessed, but had preserved and cherished, the last relic of man on the planet from which they had banished him.

In the centre of their community, they stopped before a towering structure enclosed with a glass-like material, for which they themselves were responsible. They refused to allow us to open it, but we were able to examine its contents by bringing our penetration rays to bear upon it. Beneath the glassy case was a hard shell of carborundum enclosing another shell of lead, which in turn protected a canister filled with argon gas, and containing many sheets resembling those we use for preserving our records. On these sheets were inscribed thousands of curious symbols, in orderly array, but which, of course, were wholly incomprehensible to us.

It was obvious that this last monument of man had been constructed by a creature of high intelligence; in fact only a member of a gigantic species, armed with powerful tools, could have cast and fashioned such a thing. As I stood there beside the towering relic, I was filled with a burning curiosity concerning it and the strange race which had built it. What was it? What was its purpose? What had caused

the builders' downfall? We must find the answers to these tantalising questions.

AND, with the aid of the termites, the only creatures on the planet which had retained some knowledge of the ancient civilisation, we contrived to piece together the story of man's triumph and failure. This peculiar mammal had mastered its environment only after a long and desperate struggle. When the ants and termites were far developed, man had not learned the use of tools, or even of fire. But, once started on his upward climb, his development was much faster than the insects'.

Within the space of fifty radioads, the race had changed from fearful, hunted creatures to proud, mighty beings who completely dominated the planet. Their magnificent cities reached high into the skies, and they delved deep into the innermost secrets of Nature. We were amazed to discover that they had even conquered space, and had travelled to other worlds of their system; and it was about this time in their career that the great tower had been built.

It seemed that a terrible earthquake had rocked the islands near the coast of a nearby land-region. In this catastrophe, many inhabitants of an area called Japan had been lost. The names of the victims had been preserved; and it was the receptacle containing them and the monument in which it was placed that had become the last relic of the race. Despite all the marvellous things which man had achieved, this memorial to the victims of a natural phenomenon alone remained to testify to his accomplishments. . . .

Two things had caused man's decline, and eventual demise. The termites had throughout continued their slow development, and in a period known as the Twentieth Century, had begun to spread farther north. Gradually, the barbarous termites of the temperate zones gave way to the highly-socialised, giant species of the tropics. Man depended on cellulose—the termites lived on it. Thus, man was forced

to retreat as the enemy advanced.

The scientists of the mammal race evolved a super-ant to combat the menace, combining the characteristics of all the higher species, but it could not stop the insidious advance. However, it was the change in man's mind, towards the end of the century, that was the deciding factor. *He refused to fight back.*

The species had attained to its position of dominance among the many forms of life which, in the past, had inhabited the planet, only because it had contrived to outwit and destroy its enemies. But now, at a time when man's pre-eminence was being challenged, a movement of non-resistance, of Pacifism, arose. Having evolved by struggle, he voluntarily ceased to struggle; and so he began to die, to give up his place to the invading termites.

Resignedly, he abandoned his colossal cities to the enemy and retreated to the far north, where the termites could not penetrate. And even there, amid conditions that were against him, he did not exert his strength, but gave himself up to the relentless cold. Had they wished, the scattered remnants of the species might have survived, might even have escaped to another planet to claim it for their own; but man had made non-resistance his religion, and so, inevitably, death overtook him.

Slowly but surely, the end came. The termites had won. In time, all man's cities and machines disappeared—all except the great tower which the termite colony had preserved, for some reason we could not understand. So man had died; and now the planet itself is doomed, with all its species, for the orb on which it depends for its life has not long before it must die . . .

And so we left this amazing planet; left it to its memories of the past greatness of a brave race which yet refused to live. This is a true account, Honourable Councillors. I take my oath by the Eternal Flame.

NX2Z-O-V7. COMMANDER,
I.S.E.V. C2X.

To The Visitor From Earth, That Remote Sphere Seemed Utterly Weird And Terrible . . . Until He Knew It With Unearthly Senses



ESCAPE TO MLOK

By

**CLARK
ASHTON SMITH**

Author of *Dimension of Chance*, *Mastix*,
of the Asteroid, etc.

CHAPTER I

THE BEINGS ON THE MOUNTAIN

IT WAS on Spanish Mountain, where he had climbed from Donner to escape the society of his fellow-campers, that Lemuel Sarkis first met the people of the planet Mlok. Since he was far from being an expert mountaineer, he had not cared to assail the crowning peaks of the long, sombre ridge; but had contented himself with the lower, more assessible eastern terminus. From this, he could look down on the waters of Frog Lake, lying dark and still at the bottom of a bare declivity.

Among volcanic-looking boulders, well out of the wind that swept the upper ridge, he seated himself in morose contemplation; while the mountain shadows lengthened, shaken out like lazy wings, and a pale light crept eastward on the black waters below. The vastness of the solitude, its grim and craggy grandeur, began to have a soothing effect upon Sarkis; and the human trivialities and banalities that

had driven him to flight assumed their proper insignificance in the mighty perspectives on which he peered.

He had seen no one, not even a shepherd or fisherman, in his climb through the forested ravines and up the sunflower-covered slopes. And he was startled as well as annoyed when a pebble, loosened as if by some unheard footfall, clattered past him and went over the precipice. Someone else had climbed the mountain; and his misanthropic aversion rose in a gall-like bitterness, as he turned to survey the intruder.

Instead of the tourist or mountaineer he had expected, he saw two beings who bore not even the remotest appearance to humankind, and, moreover, were obviously unrelated to any species of Earth-life. Not only for that first startled moment, but during the entire episode that followed, Sarkis wondered if he had fallen asleep and been visited by some preposterous dream.

Each of the beings was about four feet high, with a somewhat doubtful division

into head and body. Their formation was incredibly flat and two-dimensional; and they seemed to float rather than stand, as if swimming through the air. The upper division, which one accustomed to Earthly physical structures would have taken for the head, was much larger than the lower, and more rotund. It resembled the featureless disk of a moon-fish, and was fringed with numberless interbranching tendrils or feelers, like a floral arabesque. The lower division suggested a Chinese kite. It was marked with unknown goblin features, some of which may have been eyes, of a peculiarly elongated and oblique sort. It ended in three broad, streamer-like members, sub-dividing into webby tassels that trailed on the ground but seemed wholly inadequate for the purpose of legs.

The coloration of these beings baffled Sarkis. He received alternate impressions of opal-shot blackness, elusive greyness and blood-bright violet. Impossible beyond belief, they hung before him among the rocks, swaying forward with a dreamy slowness, as if attached to the ground by their tasselled streamers. Their fringes of woven tendrils seemed to float towards him, quivering with restless life, and certain of their eye-like features gradually brightened and drew his gaze with the hypnotic gleaming of crystals.

The feeling of divorce from reality increased upon him; for now he seemed to hear a low, insistent humming, to which he could assign no definite source. It corresponded vaguely with the slow vibration of the fringes, in its beat and cadence. He heard it all around him in the air, like a mesh of sound; and yet, somehow, it was inside his own brain, as if the unused cells were thrilling with a telepathic murmur from a hundred worlds unknown to man.

The humming grew louder; it took on a partial coherence and articulation, as if certain sounds were repeated over and over again, in a long-drawn sequence. Still more articulate it grew, seeming to form a prolonged vocable. Startlingly, it dawned upon him that the vocable was intended for the phrase, "Come with us," and he realised that the beings were trying earnestly to convey an invitation, by means of unearthly vocal organs.

Clark Ashton Smith's wonderful imagination knows no bounds in its conception of worlds unknown, where completely alien conditions would mystify and, perhaps, horrify any human venturer into them. But just as we can hardly expect intelligent life to have evolved in human shape amid unearthly surroundings, so we cannot expect it to be handicapped by possessing senses similar to ours. Indeed, it is more likely that things which to our eyes would seem ugly and menacing would be beautiful and attractive to the natives of such a different planet.

LIKE one who has been mesmerised, without fear or wonder, he gave himself up to the impressions that besieged his senses. On the flat, vacant, moon-fish disks, very gradually, dim, intricate lines and masses limned themselves, growing brighter and more distinct, until they began to suggest an actual picture.

Sarkis could comprehend little of what he saw, but he received an idea of immense distance and alien, distorted perspective. In a blare of exotic light, a sea-like flood of intense colour, strange-angled machineries towered, and structures that might have been either buildings or vegetable growths receded on a ground of baffling dimension and doubtful inclination. Through this baroque scenery there floated forms that bore a slight and incoherent resemblance to the beings who confronted him; a resemblance like the broken hint of natural shapes maintained in the utmost perversions of cubism. Together with these forms, as if conveyed by them, there moved another figure having an equally remote and dubious likeness to a human being.

Somehow, Sarkis divined that this latter figure was intended for himself. The scene was a picture of some foreign world or dimension, which these fantastic creatures invited him to visit! Alike in all its details, the tableau was duplicated on the disks.

With curious lucidity and coolness, he

pondered the invitation. Should he accept it? And if he did accept, what would happen? Of course, it was all a dream, and dreams were tricky things, with a habit of vanishing if one tried consciously to fathom their elusive vistas. But, supposing it were not a dream? From what world, then, had these beings emerged, and by what mode of transit were they enabled to visit the Earth? Surely, they could not have come from any planet of the Solar System: their utter strangeness seemed to argue that they were children of another galaxy, or at least of another sun than ours.

The beings appeared to perceive his hesitation. The pictures on their bodies faded, and were slowly replaced by others, as if they sought to woo him with the varied sceneries of their native world. At the same time, the humming noise was resumed; and after awhile, the equivocal monotone began to suggest familiar words, most of which continued to elude Sarkis. He seemed to make out an eerie prolongation of "offer" and "escape," as if these vocables were uttered by some enormous, droning insect.

Then, through the strange, hypnotic sound, he heard the crisp laughter of a girl and the gay chatter of human voices. Plainly, several people had climbed the mountain and were coming towards him along the slope, though he could not see them as yet. The dreamy charm was broken; and he felt a shock of actual fear, as well as a deep startlement, when he saw that the unknown visitors were still before him. Those intruding human voices had convinced him that this happening was no dream, and he felt the involuntary recoil of the Earth-born mind from things that are monstrous and inexplicable.

The voices drew nearer behind the rocks, and he thought that he recognised the tones of one or more of his fellow campers. Then, as he continued to face the apparitions, he discerned above their grotesquely floating forms the sudden flash of sourceless, glinting metals that hung in the air, like some mechanical mirage. A maze of slanting rods and curving reticulations seemed to hover and descend about the two beings. An instant later, it was gone, and the visitants had also disappeared!

Sarkis hardly saw the approach of a

woman and two men, members of the party he had wished to avoid. To a bewilderment like that of some rudely awakened sleeper was added the eerie consternation of one who thinks that he has met the supernatural.

A WEEK later, Sarkis had returned to his lodgings in San Francisco, and had resumed the tedious commercial art which formed his one reliable means of livelihood. This uncongenial work had involved the ruthless smothering of higher ambitions. He had wanted to paint imaginative pictures; had dreamed of fixing in opulent colour a fantasy such as Beardsley had caught in ornate line. But such pictures, it seemed, were in small request.

The peculiar happening on Spanish Mountain had stirred his imagination profoundly, though he was still doubtful of its actuality. He gave himself to endless speculation, and often he cursed the untimely interruption that had caused the weird visitants to vanish. It seemed to him that the beings—if they were not mere hallucinatory images—had appeared in answer to his own vague and undirected longings for the super-mundane. Like envoys from a foreign universe, they had sought him out, and favoured him with their invitation. Their attempt at verbal communication argued a knowledge of English; and it was plain that they could come and go at will, no doubt by means of some occult mechanism.

What did they want with him? he wondered. What would have been his fate if he had accompanied them? His pictorial bent for the fantastic was deeply stimulated; and more than once, after his daily stint of advertising art was done, he tried to paint the visitants from memory. This he found peculiarly difficult: the images with which he sought to deal were without analogy, and their very hues and proportions baffled his recollection. It was as if an alien spectrum, a trans-Euclidean geometry, had somehow been involved.

One evening, he stood glowering with dissatisfaction before his easel. The picture, he thought, was a silly smudge of over-painted colours which utterly failed to convey the true outlandishness of its theme. There was no sound or other warning, nothing that could consciously

attract his attention. But, turning abruptly, he saw behind him the two beings he had met on Spanish Mountain. They swayed slowly in the lamplight, between the cluttered table and a somewhat shabby divan, trailing their tasseled members on an old rug whose faded floral designs were splashed with fresh paint.

With the loaded brush in his fingers, Sarkis could only stand and stare, held in the same hypnotic thrall that had swept him beyond fear or wonder on the mountain. Once more he beheld the gradual, somnolent waving of the arabesque feelers; again he heard the dreamy, monotonous hum that resolved itself into long-drawn vocables, inviting him to go with the visitants, and again, on the moon-fish disks, were depicted scenes that would have been the despair of a futurist.

Almost without emotion or thought of any kind, Sarkis gave an audible consent; though he hardly knew that he had spoken. Slowly as it had begun, the waving motion of the feelers ceased. The consonant humming died; the pictures faded. Then, as before, there came the silvery flash of air-suspended machinery. Broad, oblique rods and concave meshes hovered between ceiling and floor, descended about the alien entities—and about Sarkis himself.

CHAPTER II

THE WORLD OF MLOK

DIMLY, between the glowing bars, he descried the familiar furnishings of his room. An instant more, and the room vanished like a film of shadow wiped away in light. There was no sense of movement or of transit, but it seemed that a foreign sky had opened above, pouring down a deluge of crimson. Redness streamed upon him; it dripped over him in sullen or burning cascades, and filled his eyes with a fury as of boiling blood.

By degrees, he began to distinguish outlines and masses. The bars and meshes were still around him; his strange companions still beside him. They were weirdly altered, now, and they swam in the crimson flood like the goblin fish of some infernal sea. Involuntarily, Sarkis

shrank from them; they were terrifying, monstrous.

He saw that he was standing on a curiously tessellated floor that curved upward on all sides, like the bottom of a huge saucer. High, outward-sloping walls, windowless and roofless, towered all about. The mechanism that surrounded him was also topless, and he perceived that it was changing. Very slowly, like dying flames, the rods and meshes sank and disappeared in a circle of small sockets that were part of the floor.

A deep vermillion heaven domed the tower, pouring down the thick, heavy light; and the material of which the building was composed, whether stone, metal or some unheard-of element, flowed with lustres of liquid ruby and dissolving cinnabar. Sarkis became aware that the air he breathed, though well supplied with oxygen, was uncomfortably thick and seemed to choke his lungs. Also, when he tried to move, he found his weight enormously increased, as if by the gravitation of a gigantic planet.

Where he was, or how he had come there, he could not imagine. He had nursed an artistic longing for the weird, the other-worldly; but he had never dreamed of this utter and delirious alienation from known things. Moreover, he had not foreseen the shock to human nerves that would ensue an actual transition into another sphere. His sensations of physical discomfort were soon supplemented by a sort of optic torture. The light troubled him; it stimulated his senscs cruelly, and yet it stifled and oppressed him at the same time.

A multitude of beings similar to his companions began to enter the topless tower, floating gradually down from the sky or swimming in through low doors. They crowded about him, and he found himself moving towards one of the exits, with their feelers and streamers tugging gently at his limbs. He felt an unreasoning terror at their touch, like a child in the grip of nightmare shadows. Their loud humming awoke in his brain the thought of some hostile horde of abominably droning insects.

Passing through the doorway, he entered a sea of light in which he was unable to discern clearly the features of the landscape. Almost vertically over-

head, he saw the blinding blot of a vast sun. The throng of goblin people, increasing momently, bore him down a grassless, barren slope whose bottom was lost in the inundating crimson.

More and more, he felt an inexpressible malaise, a frightful mixture of confusion, irritation and depression to which all his senses contributed. He tried to recall the circumstances of his departure from Earth, and to assure himself that there was some natural explanation of all that had happened. The beings whose invitation he had accepted were, he told himself, friendly and well-meaning, and he would suffer no harm. But such thoughts were powerless to calm his agitated nerves, now subject to the assault of innumerable vibratory forces which the human system had never been meant to sustain.

THE torture deepened. His journey down the slope, rendered doubly slow by the dragging gravitational pull and the leisurely drifting of his fantastic entourage, who seemed to obey another and more decelerated tempo of time than man, was literally a descent into hell. Every impression became a source of pain and terror, and he found a lurking evil in all that surrounded him.

At the bottom of the slope, a second roofless, bowl-shaped tower loomed from the murk, on the shore of a stagnant sea. To Sarkis, at that moment, it was like a shrine of alien diabolism, hateful and menacing; and he wanted to scream aloud with a nameless horror when the goblin creatures bore him towards it and urged him through its portals.

The interior of this tower, yawning to the red sky, was lined from floor to top with countless outlandish carvings. In the centre of the floor stood a curious couch, made from a pile of mattress-thick fabrics. Eyeing the couch with nervous dubiety, Sarkis became aware that the throng had melted away, as if its curiosity was appeased. A mere half-dozen of the beings remained; and since all were equally monstrous, he could not be sure if his original companions were among them.

They gathered round him with their hateful droning, pulling him towards the couch. He resisted, but the tasseled

streamers were unbelievably strong, and they tightened about him, clammily repulsive as the tentacles of octopi. The couch was innocent enough, and no doubt the creatures were merely offering him a hospitality which, in their own way, they had tried to accommodate to human needs. But Sarkis felt the terror of a fever patient whose doctors and attendants seem like hellish torturers; his last remnant of control gave way, and he shrieked and fought wildly. His own voice assumed an uncanny volume in the thick air, returning upon him deafeningly, surrounding him with ventriloquistic clamours; and he seemed to lift a mountainous load as he struggled.

Very gently, but firmly, the creatures laid him on the couch. Fearing he knew not what, he still tried to resist them. Two of the beings proceeded to join their streamers across his recumbent body, interlacing the divided ends like fingers; and two others arranged their members in like fashion across his legs. Floating just above the floor, they held him securely to the couch, like doctors who have tied down a delirious patient. Lying helpless, he saw the remaining two creatures swim skyward and vanish beyond the tower's rim. After a while, he ceased his futile struggling; but his attendants still held him bound with their flat, clammy streamers.

Thenceforth he lived in an aching torment, whose duration was not to be measured by Earthly time. The red sky appeared to descend upon him, heavier and closer, and the enigmatic details of the sculptures on the tower walls perturbed him with sly suggestions of alien foulness and fear. He saw Satanic faces that leered or frowned obscenely, and faceless gargoyle things that seemed to palpitate with malignant life in the crimson.

The sky took on an awful, ardent glowing. With intolerable slowness, the huge sun, rising to its meridian, filled with its orb the cup that was formed by the tower's rim. The intricate carvings ran with redoubled light, and the stellar monsters and gargoyles dripped a venomous ruby that maddened the staring eyes of Sarkis, until he closed his lids against it, and still saw in his branded brain the corrosive, inexorably irritant colour.

Finally, a great blackness came upon him, a sluggish and leaden lethe, through which he sank interminably, still pursued by floating blots of acrid crimson.

HE AWOKE in a sort of stupefaction, drugged and exhausted, as if his nerves had been burned out by that cruel debauch of red. With nightmare effort, he opened his eyes to a heaven of funereal violet. The red sun had been succeeded by a purple binary of equal magnitude, whose orb was now intersecting the topless tower with a mournfully glaring crescent.

Sarkis could not collect his shattered thoughts, but a shapeless fear, an awareness of something irremediably wrong and baleful, rose in his mind. He was still held by the streamers of his four attendants; and moving his head, he saw that several others were floating patiently beside the couch. With their adroit members, more supple and capacious than hands, they bore a multitude of strange articles. Seeing that he had awakened, they swam towards him, proffering smooth, elongated, fruit-like objects. One of them held to his lips a shallow bowl filled with a semi-viscid liquor, which he was plainly expected to drink.

Utterly astray and unstrung, he shrank in renewed terror from these beings. Bathed in that lugubrious violet, their outer forms were cadaverous as dead things from another star. An infinite melancholia poured from the purple sun, cascaded from the sloping walls, and jetted from the monstrous carvings. The humming of his attendants, who doubtless sought to reassure him, was heavy with a dirge-like horror. Refusing the proffered food and drink, he closed his eyes and lay inert beneath the dismal madness that had fallen upon him.

All that followed was as if part of this madness, and not to be separated from its teeming phantasms. Sarkis was lifted from the couch by his attendants, who formed a sort of cradle with their streamers, in which they carried him from the tower and along some endless road. At intervals, he opened his eyes to ghastly-looking plants that swam and swayed in the violet air like sea-weed in an ocean-stream; and presently he knew that his bearers were descending a steep

incline, as if to some deeper circle of this dolorous inferno. Walls that might have been those of a slanted catacomb, lit with a bluish, deathly lambence, stifled him with their closeness.

At length he found himself in a great chamber, whose furnishings, to his distraught eyes, bore the aspect of frightful instruments of torture. His alarm was increased when the flat-bodied creatures stretched him on a slightly hollowed slab of pale mineral, whose fittings of machinery at sides and ends were reminiscent of some medieval rack. A stony fear weighed down his faculties, arrested his breathing; and he did not resist.

One of his torturers was floating above him in the hell-blue light, while the others swam in a ring about the slab. The floating creature laid the fringy tips of its middle streamer on his mouth and nostrils, and he felt an odd shock from the contact. An icy coldness flowed across his face, into his brow and head; into his neck, his arms, his body. It seemed that a strange, benumbing force had been exerted by the creature.

The flowing coldness was followed by a loss of all sensation, and a singular detachment from the terror and malaise that had tormented him. Without alarm or speculation, he considered the beings about him, who were now removing his garments and applying to his body the sinister little disks and needle-studded plates that formed part of the slab's mechanical equipment. It was all meaningless to him; and in some fashion that he did not even try to understand, the whole scene took on an ever-growing dimness and remoteness, as if he were floating away from it—and from himself—into another dimension.

CHAPTER III

THE COSMIC THREAT

HIS return to awareness was like a new birth. Strangeness there was, such as an infant would find in its surroundings, but fear and pain were wholly gone. He found nothing monstrous or unnatural or menacing in the world

that was now revealed to his senses.

Later, when he had learned to communicate easily with the people of Mlok, they told him of the singular and radical operations which they had deemed it necessary to perform upon him: operations involving his nerves and sense-organs, so as to alleviate, by changing all his impressions and certain subconscious functions, the torment he had suffered from the images and vibratory rays of a world in which the human senses would not function properly. At first, they had not understood his sufferings, since they themselves, being far more adaptive than men, endured little discomfort in passing from one world to another. But, having diagnosed his condition, they had hastened to palliate it through the resources of a superhuman science.

Just what had been done to him, Sarkis could never wholly grasp, but the results of the operations admitted him to an entire new range of perceptions. His other-world hosts had wished to make him hear, see, feel and perceive in much the same manner as themselves. Perhaps the profoundest change was in his visual images. He saw new colours of supernal softness and beauty. The red daylight, which had almost maddened him, was now a clear and nameless hue which he somehow associated with emerald green; the light of the violet binary no longer depressed him, and its colour was remotely allied to pale amber.

His ideas of form had undergone a corresponding alteration. The bodies and members of the alien beings, which he had thought almost two-dimensional and had terrified him with their goblin grotesquery, presented many subtle planes and curves, together with a depth that argued the addition of at least one totally new dimension. The whole effect was aesthetically pleasing, with a fundamental symmetry such as he had previously discerned in well-shaped human bodies. The vegetation, scenery and architecture, too, no longer impressed him as abnormal or monstrous.

His sense of time had now become synchronised with the slow tempo of the heavy planet, and the speech and movement of the inhabitants had lost that former sense of undue prolongation. The thick air, and the weighty gravitation, had

also ceased to discomfit him. Moreover, he had acquired several new senses, one of which could only be described as a combination of hearing and touch. Many sound-images, especially those of high pitch, were perceived by his ears: the sensation was of a gently varied tapping. Another sense was that of audible colour: certain hues were always accompanied by an overtone of sound, often highly musical.

His intercourse with the people of Mlok was carried on through several mediums. After the operations, they could impress telepathic words and images upon his mind. Their other modes of communication, which involved for them less expenditure of energy than pure telepathy, were mastered more gradually by Sarkis. The reflex of thought-pictures, thrown on their bodies as on a screen, became intelligible to him; and the sound-vibration of their arabesque feelers, which served them in lieu of vocal cords, was now fully articulate, with its higher notes perceptible as a graduated tactile pressure.

He learned that his hosts, who called themselves the Mloki, after their planet, were an old and highly developed race, for whom the marvels of scientific masterdom had become secondary to the delights of pure perception and reflection. Mlok, they told him, was the third planet of a binary solar system in a galaxy so remote, astronomically speaking, that its light had never reached the Earth. The manner in which they themselves had reached Earth, and had taken him to their own world, was strange indeed, and involved the use of an arcanic force which, by projecting itself through the Fifth Dimension, could exist simultaneously in opposite corners of the universe. The apparatus of silvery bars and meshes which had descended upon Sarkis was composed of this force; how it was controlled and manipulated, he never quite understood, apart from the fact that it was closely obedient to a certain nervous power possessed by the Mloki.

These beings had often visited the Earth, as well as many other alien planets, through curiosity; and in spite of their divergent sense-development, they had acquired a surprising knowledge of Terrene conditions. Two of them, whose names were Nha and Nuu, had found Sarkis on Spanish Mountain, and had per-

ceived telepathically his dissatisfaction with mundane life. Being sympathetic in their way, and also curious concerning the result of such an experiment, they had invited him to accompany them on their return to Mlok.

THE real events of Sarkis' life among the Mloki were his new and wonderful sensations. The outward happenings were all very simple, for the existence of this people, apart from their excursions to remote worlds, was almost wholly contemplative.

For his food and drink, they supplied him with many fruits and vegetable juices. The Mloki themselves drew their nourishment directly from the air and light; and their topless towers were designed to collect and focus all the solar rays, the absorption of which was to them a rare, epicurean pleasure. To a limited extent, the alteration of Sarkis' nerves had given him a similar faculty, but he still depended mainly on grosser foods.

One very remarkable feature of the sensory change in Sarkis was the vagueness which attended his impressions of his own body. He seemed to possess a dream-like immateriality, and to drift rather than walk in his movement from place to place.

He spent much of his time in converse with certain of the Mloki, especially Nlaa and Nluu, who took a tutelary interest in their protégé, and never wearied of imparting to him their immensely recondite and various knowledge. He acquired undreamed-of conceptions regarding time, space, life, matter and energy, and was also instructed in novel aesthetics and in highly complicated arts which made painting appear a silly and barbarous pastime.

How long he remained in Mlok, he never knew. His instructors, a long-lived people to whom centuries were no more than years, gave little importance to the formal measurement of time. But many of the long, double days and brief, irregular nights had gone by, before a homesickness for the lost Earth began to torment him. Amid all the beguilements and novelties of his existence, beneath his altered senses, a nostalgia rose in his brain, which was still, at bottom, the brain of an Earthman.

The feeling came upon him by degrees. His memories of the world he had for-

merly detested, and from which he had longed to escape, took on a haunting charm and poignancy, and were touched with an enchantment such as belongs to early childhood. He recoiled from the sensory opulence of the world about him, and yearned for the simple scenes and faces of the human sphere.

The Mloki, well aware of the growth of this feeling, tried to distract him with new impressions, and took him on a tour of their planet. In this tour, they employed a vessel which swam through the thick air like a submarine in some Tellurian ocean. Nlaa and Nluu accompanied him, solicitous, and eager to point out the marvels of each latitude. The effect, however, was merely to aggravate his nostalgia. Peering down on the domeless Karnaks and Babylons of this ultracosmic world, he thought of the Earth-cities with a craving which, in view of his former aversion for the works of man, he would never have believed possible. Drifting among prodigious mountains, where mundane peaks would have been lost like boulders, he recalled the Sierras with a sick yearning that moved him almost to tears.

AFTER rounding the equator of Mlok, and visiting the iceless poles, the expedition returned to its starting-point, which lay in the tropic realms. Sarkis, now desperately ill and languishing, implored Nlaa and Nluu to send him back to his own world, by means of the occult force-projector. They tried to dissuade him, saying that his homesickness was merely a brain-wrought illusion that would wear off in time, then, in order to relieve him permanently and speedily from his suffering, they proposed a certain treatment of his brain-cells. By the injection of a rare vegetable serum, they could alter his very memories and mental reactions, and these, as well as his sense-impressions, would then approximate those of the Mloki.

Sarkis, though he shrank in a way from the proposed mental transformation, which would have removed him utterly and for ever beyond humanity, might well have consented. But certain untoward happenings, wholly unforeseen, were to bring about another eventuation than this.

The planetary system to which Mlok

belonged was on the very extreme of its native island-universe. In the short inter-solar night, this universe could be seen as a nebulous star-cloud, filling half the heavens; but the other half was dark and rayless as the Coal Sack familiar to Terrene astronomers. It seemed that there were no living stars in the sable gulf, unless at a distance that had not yet permitted their rays to reach the observatories of Mlok. Nevertheless, there came from this void the first invasion that had ever threatened the security of the two-sunned planet.

The first warning of this invasion was a dark cloud, a thing hitherto unknown in Mlok, whose humid element was constant in the thick seas and heavy air, without evaporation or precipitation. The cloud, which had the form of a trapezium, drew down and widened rapidly above the southern zones, doming the sky with intense ebon. It broke on the lands beneath in a rain of black, liquid globules, which acted like a mordant chemical. Flesh, stone, vegetation, everything that was touched by the rain, dissolved instantly, forming tarry pools and rills that soon merged in an ever-spreading sea.

The news of this catastrophe became known immediately all over the planet. The corrosive sea was watched from air-vessels and every effort was made to curb its inroads. Dykes of atomic energy were built to enclose it, and belts of elemental fire were centred upon the pollution, to burn it away. But all such measures were in vain. The sea, like a liquid cancer, ate steadily into the huge planet.

Some of the black fluid was obtained by Mloki who sacrificed their own lives in submitting it to analysis. Even as the element began its ravages upon their bodies, they announced their findings as to its nature. The globules that had fallen from space, they thought, were protoplasmic organisms of a type hitherto unknown, which had the power of liquefying all other forms of matter in what was seemingly an illimitable process of assimilation. This process had formed the eroding sea.

Another rain of globules was soon reported, this time in the northern hemisphere. A third precipitation, following swiftly, made certain the eventual doom of Mlok. The people could only flee from

the dissolving shores of the three oceans, which were widening in ravenous circles, and would sooner or later unite and surround the planet. It became known, also, that the other worlds of the system, which were not peopled by intelligent beings, had been attacked by the lethal organisms.

CHAPTER IV

THE RETURN OF SARKIS

THE Mloki, a philosophic race, long given to equable meditation on cosmic change and death, were resigned to the coming annihilation. Though they could have fled to alien worlds by means of their space-projectors, they preferred to perish with their planet. Nlaa and Nluu, however, now became anxious for the return of Lemuel Sarkis to his own sphere. It was not just or proper, they argued, that he should share the doom of an ultra-Terrene people. They had promptly abandoned the idea of subjecting him to further medical treatment, and could only urge his immediate departure.

In a state of oddly bewildered emotions, he was taken by his two guardians to the tower through which he had entered Mlok. From the hill on which this tower stood, he could discern on the far horizon the black arc of the encroaching sea of dissolution. Enjoined by his preceptors, he took his place amid the circle of floor-sockets that formed the generators of the transporting mechanism. With much regret and sadness, he said farewell to Nlaa and Nluu, after vainly pressing them to accompany him.

Since, as they told him, they could determine by means of their thought-images the very spot in which he was to land, he had expressed a desire to return to Earth via his studio in San Francisco. Moreover, since travel in time was no less feasible than space-transit, his mundane reappearance would occur on the morning that had followed his departure. Slowly, and having now a different form and hue for his altered eyes, the bars and meshes sprang from the tower floor and surrounded Sarkis. All at once, the air darkened strangely. He turned again towards Nlaa and Nluu for a parting glimpse—and

found that they, as well as the tower, had vanished. The transition had already taken place.

The pseudo-metallic rods and meshes began to dissolve about him, and he looked for the familiar outlines and furnishings of his studio. A puzzlement assailed him, and then a hideously growing doubt. Surely Nlaa and Nluu had made a mistake, or else the projecting power had failed to return him to his chosen bourn. Seemingly, he had been landed in a totally unknown sphere or dimension.

Around him, in a sullen light, he saw the looming of dark, chaotic masses, whose very contours were touched with nightmare menace. Surely this place was not his studio; these crazily-angled cliffs that closed him in were not walls, but the sides of some infernal pit! The dome above, with its dolorously distorted planes, pouring down a hellish glare, was not the sky-lighted roof that he recalled. The bulging horrors that rose before him along the bottom of the pit, with obscene forms and corrupt hues, were surely not his easel, table and chairs.

He took a single step, and was alarmed by the horrible lightness which he felt. As if by some miscalculation of distance, the step carried him against one of the looming objects; and he ran his hands over it, to find that the thing, whatever it might be, was clammily repulsive to the touch as well as repugnant to sight. Something about it, however, on close inspection, was remotely familiar. The thing was like an overswollen, geometric travesty of an arm-chair!

SARKIS felt a nervous perturbation, a vague and all-surrounding terror, comparable with that of his first impressions in Mlok. He realised that Nlaa and Nluu had kept their word, and had returned him to his studio, but the realisation only increased his bewilderment. Because of the profound sensory changes to which he had been subjected by the Mloki, his perceptions of form, light, colour and perspective were no longer those of an Earth-man. Therefore, the well-remembered room and its furnishings were wholly monstrous to him.

Somehow, in his nostalgia, and the haste and flurry of his departure, he had failed

to foresee the inevitability of this change of aspect in all Earthly things. A hideous vertigo swept upon him, with the full understanding of his predicament. He was virtually in the position of a madman who knows well his own madness, but is utterly without power to control it. Whether or not his new mode of cognition was closer to ultimate reality than the former human mode, he could not know. It mattered little, in the overwhelming sense of estrangement, amid which he sought desperately to recover the least hint or vestige of the world that he remembered.

With the doubtful groping of one who seeks an exit from some formidable maze, he searched for the door, which he had left unlocked on the evening when he accepted the invitation of Nlaa and Nluu. His very sense of direction, he found, had become inverted; the relative nearness and proportion of objects baffled him. But at last, after many stumbling and collisions with the misshapen furniture, he found an insanely faceted projection amid the perverted planes of the wall. This, he somehow determined, was the door-knob.

After repeated effort, he opened the door, which seemed to be of unnatural thickness, with convex distortions. Beyond, he saw a yawning cavern with lugubrious arches, which he knew to be the hall of the apartment house in which he lived.

His progress along the hall, and down the two flights of stairs to the street-level, was like a pilgrimage in some ever-deepening nightmare. The time was early morning, and he had met no one. But apart from the maddening visual distortion of everything about him, he was assailed, as he went on, by a multitude of other sense-impressions that confirmed and increased his neural torture.

He heard the noises of the awakening city set to an alien tempo of delirious speed and fury: a hurtling of cruel clangours, whose higher notes beat upon him like a pounding of hammers, a volleying of pebbles. The ceaseless impingement stunned him more and more; it seemed that the thronging strokes would batter in his very brain.

HE EMERGED at length on what he knew to be the city street; a broad avenue that ran towards the

ferry building. The early traffic had begun and, to Sarkis, the passing cars and pedestrians seemed to whirl with lightning speed, like the souls of the damned in some nether chasm of an insane hell. For him, the morning sunlight was a lurid, baleful gloom that flowed in forked rays from a demonian eye that brooded above the chasm.

The buildings, with pestilent hues and outlines, were full of the terror of delirium, the abomination of ill dreams. The people were ghastly creatures whose headlong movement barely permitted him to form a clear impression of their bulging eyes, their bloated faces and bodies. They terrified him, even as the people of Mlok beneath the maddening vermillion sun.

The air was thin and bodiless to him, and he suffered a peculiar discomfort from the lessened pressure and gravity, which added to his feeling of hopeless alienation. He seemed to move like a bewildered phantom through the dismal Hades to which he had been committed. He heard the voices of the monsters who went flying past; voices that partook of the same giddy acceleration as their movements, so that the words were indistinguishable. It was like the sound of some vocal record, played too fast on a gramophone.

Sarkis groped his way along the pavement, searching for some familiar landmark in the alien-angled masses of the buildings. Sometimes he thought that he was about to discover a remembered hotel or shop-front—and then, a moment later, the broken similitude was lost in a mad bizarrie. He came to an open space, which he had known as a small park, with well-kept trees and shrubbery amid the greening grass. He had been fond of the place, and its memory had often haunted him in his cosmic homesickness. Now, stumbling upon it in that city of delirium,

he sought vainly to retrieve the longed-for charm and loveliness.

The trees and shrubs were like towering fungi, loathsome and unclean, and the grass was a vermin-grey foulness from which he turned in sick revulsion. Astray in that labyrinth of fear, and virtually out of his senses, he fled at random, and tried to cross an arterial road where cars were hurtling by at the apparent speed of projectiles. Here, with no warning that his eyes or ears could perceive, something struck him down like a sudden bolt, and he slid into merciful oblivion.

He awoke, an hour later, in the hospital to which he had been taken. The injuries which he had sustained, from being knocked down by the slowly-driven car before which he had thrust himself as if deaf and blind, were not serious, but his general condition puzzled the doctors. When, with reviving consciousness, he began to scream horribly, and to shrivel away as if in mortal terror from his attendants, they were inclined to diagnose the case as delirium tremens. His nerves were obviously in a bad way; though, curiously enough, the doctors failed to detect the presence of alcohol or any known drug to support their diagnosis.

Sarkis failed to respond to the powerful sedatives which they administered. His sufferings, which seemed to take the form of terrific hallucinations, were prolonged and progressive. One of the medicos noted a queer deformation of his eyeballs, and there was much speculation regarding the singular, long-drawn *slowness* of his screams and writhings. However, though baffling, his case was readily enough dismissed by the doctors when, a week later, he persisted in dying. It was merely one more of those unsolved enigmas that sometimes occur even in the best-regulated of professions.

Things to come . . .

EXILES OF ASPERUS

by John Beynon

READERS' REACTIONS

Readers are invited to write to the Editor stating their opinions, frankly and concisely, on the merits of each issue of TALES OF WONDER, or upon any subject arising out of its contents. Address your letters to TALES OF WONDER, The Windmill Press, Kingswood, Surrey. If a personal reply is desired, a stamped, addressed envelope should be enclosed.

A GIRL READER WRITES

I HAVE read American science fiction on and off for the past five years, and I often wondered if there was a British magazine featuring these fascinating stories. Then, one day, I happened to be passing a bookstall when I spied TALES OF WONDER. The title was new to me, so I bought it, but I did not realise until I opened it that it was a British science fiction magazine. The issue was the eleventh, and I thoroughly enjoyed the colourful adventures through which I was carried.

Unfortunately, I was unable to obtain Nos. 12 and 13, but I have No. 14, and can assure you that I shall be a regular reader from now on. The stories gripped me every bit as much as those in the earlier issues I read, and I find it difficult to arrange them in order of merit, they were all so good. However, I will have a shot at it.

First, I think, comes "Death from the Skies," by the American author, A. Hyatt Verrill. I became so intensely interested in this that when I came to the part describing the falling of the meteorites on the British Isles, I forgot for the moment that I was reading a magazine and not a newspaper. A good second, and really on a level with Verrill's story, was Miles J. Breuer's "Child of Neptune." Stories dealing with space travel I always enjoy, and sincerely hope you will continue to publish them.

"The Red Spheres," by Geo. C. Wallis, comes next, though the ending seemed rather abrupt. A sequel to this story, relating the adventures of the two Earth-people on some distant planet, would be

very welcome. Clark Ashton Smith's "Murder in the Fourth Dimension" was most unusual, leaving one with a feeling of unreality, like awakening slowly from a vivid dream.

The *Search for Ideas* feature is excellent. And, by the way, I think your stories would be much better if a few more humorous touches were introduced into them, after the American style. As regards the cover, I think the effect is rather insipid: it has a washed-out, bleached appearance. I would prefer to have a different cover illustration with each issue, with plenty of colour in it; and couldn't you dispense with all that blue and red print in the centre? As for the interior illustrations, they would look better if they were enlarged; but that would use up too much precious space, and I prefer the stories!

Anyway, I want you to know that I think your magazine is unbelievably fascinating. It carries one right away from the ordinary, everyday world to realms of mystery and adventure, of excitement and danger. I am just living for the next issue, and I hope it carries on through the war—and ever afterwards. Good luck all the way.—SYLVIA G. HUNTINGDON, 143, Douglas Road, Sheffield, 3.

(This is the first letter from a girl reader that we have published and only the second we have ever received. We wonder what proportion of our readers are women, and would be glad to hear from more of them and learn their likes and dislikes. Miss Huntingdon, obviously, is well pleased with our magazine.—EDITOR.)

NOTHING OUTSTANDING

ALTHOUGH the fourteenth issue of TALES OF WONDER does not maintain the standard set by previous issues, it is still reasonably good. In times like these, I suppose it is not easy to secure stories of such calibre as "Sleepers of Mars," "The Menace from Space," "The Planet of Youth," "The Red Dust," or "The Venus Adventure." It is not impossible, though, for in the past few issues have appeared such fine tales as "City of Singing Flame," "I, Spy!" and "Wanderers of Time."

Why don't you publish more stories like these, even if they have to be reprints? I can think of many that would improve the magazine a hundredfold; but perhaps the more famous stories are the most difficult to obtain? However, this is the first issue in which there have been no really outstanding tales; and perhaps No. 15 will once again make TALES OF WONDER one of the best magazines in the science-fiction field. I hope so, anyway.

Of the stories in No. 14, the only one that is worthy of any more than average praise was Breuer's "Child of Neptune." Verrill's "Death from the Skies" gets a poor second; although it was well written and fairly interesting, the plot was far too hackneyed. The other two tales were so-so—not bad, not good—though I give a slight lead to Wallis's.

The cover, too, could be improved immensely; but you deserve praise for the larger number of interior illustrations and the return of the date to the spine, which show that you are really trying to give your readers what they want. As usual, *Search for Ideas* and "Readers' Reactions" were O.K., but nothing more; and I hope that the new "Science-Fantasy Forum" will be as good as it sounds.

In conclusion, I ask you not to take this letter too seriously, for you will find that I am as quick to praise as I am to criticise, when I feel that you deserve it.—DONALD HOUSTON, 142, Ardington Road, Northampton.

(We must confess that, under present conditions, we find it difficult to get hold of all the stories we should like to present to our readers, in order to satisfy all their tastes. But we are doing our best,

and seem to be giving satisfaction to the majority, which is all we can hope to do.
—EDITOR.)

ANOTHER ENTHUSIAST

AFTER reading three issues of TALES OF WONDER, I feel impelled to write and express my appreciation of the pleasure they have given me. It is just the magazine for which I have been looking a long time, and in me you are assured of an enthusiastic and regular reader. It stands head and shoulders above most similar publications, and its stories contrast vividly with the trivialities of other types of modern fiction.

It was from a friend that I received No. 10, and I was soon immersed in the intriguing "City of Singing Flame." This was my first journey into an alien dimension, and the novel experience caused me much enjoyment. I soon obtained the current issue—No. 13—and found it even more enjoyable. The story, "Wanderers of Time," is in a class by itself, and John Beynon must not fail to provide us with a sequel.

On reading No. 14, however, I had a sense of disappointment. The issue fell considerably below the standard set by the two previous numbers. Reading the editorial note to "The Red Spheres," I anticipated a grim, suspenseful tale, but this was only scantly realised; though it was relieved by a powerful ending, on whose account alone I place the story first in my estimation.

"Death from the Skies" ranks second, but the most I can say of it is that it is very fair. There is practically no narrative or characterisation, and the whole thing reads more like a journalistic article than a novel. Its dramatic aspect, too, did not impress me as much as I expected it would do. "Murder in the Fourth Dimension" was the best-written story in the issue, but was only mediocre: I expect more than this of Smith.

As an essay on "Neptune as the Abode of Life," "Child of Neptune" might have been very interesting, but as a work of fiction, its scientific detail was out of all proportion to the action and plot, which even in this type of literature are the most essential ingredients. I am glad

that No. 14 was not the first I read, or it would also have been the last. But I know you can do much better, and will close with the hope that No. 15 will return to the standard of No. 13, and with every wish for your future success.—W. L. BIGWOOD, 14, Mayfield Road, Heavitree, Exeter.

(We are pleased to welcome you as a new, enthusiastic reader of our magazine, and are grateful to your friend for introducing it to you. We trust, too, that this issue will make up for the disappointment you felt in regard to the last, and would like to receive your Reactions.—EDITOR.)

"SOME REAL SCIENCE"

OF ALL the science fiction magazines I have read, I have never read a better than TALES OF WONDER, No. 14. The contrast with No. 13 was tremendous. "Child of Neptune" and "Death from the Skies" are two of the finest stories I have ever had the good fortune to read. The former had some real science in it, which is all too rare a feature, and is just the type of story you should include in future issues.

"Death from the Skies" was a welcome addition to your series of famous reprints: you could boost this a little more, you know! It is a story I have always wanted to read, and it fulfilled my highest hopes. "Murder in the Fourth Dimension" I thought good; and it is a fitting commentary on how far TALES OF WONDER has progressed when I suggest that "The Red Spheres" would have taken a high place in an earlier issue. I particularly liked the description of the "battle of brains."

Perhaps you will allow me to defend an excellent author. In "Readers' Reactions" a reader criticises Coutts Brisbane, stating that the proportions of the constituents of the atmosphere of Venus are known, and that the proportion of carbon dioxide is high. I would like to point out that it is the percentage in the upper atmosphere that is known; we know nothing of what is at the surface. This seems a rather common error.

After further consideration, I with-

draw my previous request for serials, and will be content with "advanced" stories like "Child of Neptune," if you will include one in every issue; though I think you will find it very hard to keep up the standard you have attained with No. 14. I am glad to see you have more stories by Clark Ashton Smith for us.

You seem not to have quite understood my suggestion for "short-short" stories, which is that you should invite them from readers for consideration, and print about three; then they could be rated apart from the other stories, and the winner might be invited to contribute a longer story. For all we know, there might be a British Stanley G. Weinbaum awaiting discovery. . . .

Lastly, may I suggest that you reprint "Into the Green Prism" and its sequel, "Beyond the Green Prism," by A. Hyatt Verrill, and any stories by John W. Campbell, Clifford D. Simak and Frank K. Kelly. Good luck to TALES OF WONDER!—TERENCE OVERTON, 107 Thomas Street, Abertridw, Cardiff.

(This reader's Reactions to our last issue are in direct contrast to those of the writers of the two previous letters—which is an indication of how difficult it is to please everybody at once. We are always ready to consider stories for publication, however short they are. The tales by Verrill you mention are too long for reprinting in our magazine, except in part form.—EDITOR.)

WON'T GIVE US CREDIT

TALES OF WONDER, I take it, is designed to make you wonder. If the supposition is correct, then No. 14 was an unqualified success. One wonders, for instance, why such a small proportion of its contents is original, home-produced material. One wonders why *Search for Ideas* reveals an infinitely more prolific field of advanced ideas among the readers than appears to exist among the writers. And one does not wonder why the "and Super-Science" in the title is so diminutive.

The promised Science-Fantasy Forum

looks, if *Search for Ideas* is anything to go by, like a great idea. I feel like suggesting that you cut out all fiction for one year, and compensate your regular writers with a free copy of each issue meanwhile; then, refreshed and recharged with new ideas, they could re-enter the field at least as well equipped as the readers.

Look at the fiction in the last number. "Death from the Skies" was good, but was it good enough to hog 36 pages? I say no. "Child of Neptune" was excellent, apart from the style in which it was written; it contained ideas. There was, too, something of the old-fashioned style about both of the remaining stories. That style may be ideal if the writer has something really terrific to relate. Unfortunately, these writers over-estimated the solemnity of their matter.

But, no matter how good your reprints are, I decline to give you any credit for them—I gave that to somebody else, years ago. If any of them happen to top the popularity poll, it is because there is no competition. We clamour for reprints. We get them, and we hate them. Why? Just because we remember them well enough to know that we once enjoyed them. We forget that the years have brought us new works written in a style that makes these old masterpieces slow by comparison.

If you must give us reprints, then either remove the fungus from their mouldering pages or exhume those that remain impervious to the reek of the sepulchre. The works of the late Stanley G. Weinbaum were written in a style that would more than stand the acid tests of to-day . . .

I have had one crack already at the latter half of your title—"and Super-Science." Does "Super" mean "pseudo"? I do not wish to criticise writers who are going beyond the explored fields of knowledge. Whatever drivel they turn out, I would continue to encourage them: they are the triers. I condemn the writers who exploit fields already exhausted, yet apparently find no time to keep abreast of modern researches. Neither Clark Ashton Smith nor Geo. C. Wallis have tried to keep their stories within the bounds of well-established logic or findings. This is pure laziness, and is letting down the man who buys the magazine on the strength of the title.

If we are to have stories of migration from an inimical Earth, let us have something more reasonable than a Sun that cools inexplicably. Scientific Era or any other Era, let us have no dying Sun within the next thousand mega-years. If the Sun is going to present us with unfavourable conditions faster than evolution can adapt us to them, I suggest that the writer consult some work on Novae. Similarly, for tales concerning the fourth or higher dimensions, the writer should acquaint himself with the works of Einstein, Eddington, de Sitter, or even Weinbaum.

I believe that quite a number of your readers know a good deal about these abstruse dimensions. Consequently, writers should be at pains to tread carefully while still on familiar ground. And you, Mr. Editor, must see that they do.

If this letter means anything to these writers, perhaps they will try to keep off the preserves of Victorian text-books dealing with the planetary bodies of the Solar System. Surely, the Universe has more promising aspects than the poky little corner illuminated by our Sun. When are we going to get stories of seven-dimensional continua limited neither by the curvature of time nor by subjunctive differentiation? Intergalactic or even interstellar space will give us opportunity to stretch our cramped minds in the freedom beyond the wretched, over-written confines of this tiny Solar System.

If the shortcomings of your magazine are not remedied, I shall institute a rival publication — "Flabbergasting Stories." For material, I shall solicit articles and stories from contributors to *Science-Fantasy Forum* and *Search for Ideas*. I shall steal Turner, too.—R. GOULD, 5 Suffolk Street, Swindon.

(This is a most interesting, if rather critical, letter. We would like to receive more of them. After his earlier comments, which appeared in our last issue, we fancy the writer is deliberately exaggerating our "shortcomings"; but we can only repeat, in reply to his pleas for more original stories, that we are doing our utmost to encourage new writers and new ideas, while exercising every care in our choice of popular reprints.—EDITOR.)

THOSE MARTIAN MISSILES

IN REVIEWING your fourteenth issue, I find myself giving first place to Breuer's "Child of Neptune," in which a conception of an entirely alien form of life was given a most sympathetic treatment. The idea of gaseous entities with incredibly slow metabolism was new to me, but so carefully worked out, with such a skilful use of scientific analogy and a boldly imaginative approach, that I found myself accepting it at its face value.

The gradual development of the thesis, with the adroit intermingling of observed fact and appropriate fiction; the simplicity of the plot, hinting at much greater depths than it actually revealed—these are points to be noted by all prospective authors, for they are the essentials of any science fiction story that aspires to be a work of art. This is the sort of tale I want to see followed up!

Second in my estimation came that grim but exquisite miniature by Clark Ashton Smith. A murder that carries the seeds of vengeance within itself is a theme such as Poe delighted in; yet even that master never hit upon a better treatment of it than we find here. And the poisonous luxuriance that riots in the work of Smith, as in that of his great predecessor, to the detriment of both, has been pruned in this case, with the happiest results.

Verrill's story, I must confess, was a disappointment to me; doubly so, because I usually enjoy the work of this remarkable naturalist-author. To start with, I considered the human element in the tale far too sketchy; and as regards the scientific basis of the plot, I found myself quite unable to comprehend how anybody could predict the destination of the Martian missiles, since this was dependent, not merely on the relative movements of Mars and Earth, but on the decisions of the operators, who had considerable freedom of choice in the selection of their targets.

Lastly, "The Red Spheres." This was notable only for the amateurishness of the plot-construction, leading to lengthy dialogues in which, for the benefit of the reader, the characters solemnly inform one another of facts which should be common knowledge at the time. The liquidation of Ariston, too, might have been managed more cheaply and safely than through that

costly "battle of brains." But the ending was a master-stroke—a blend of hope and despair, leaving the way clear for a sequel.

As I said before, your continued appearance in the midst of World War II is itself a quarterly miracle. With renewed wishes for your future success, on which depends your survival.—OSMOND ROBB, 107 Montgomery Street, Edinburgh.

(*Thank you once again, Mr. Robb!—EDITOR.*)

POTTED OPINIONS

A READER since the first issue, N. OSTRON, 4 Merton Road, Blackpool, writes us his first letter to express his "great appreciation" of TALES OF WONDER, "which has, on the whole, in spite of reduced size, attained a much higher level to-day than in its pre-war days." He considers John Beynon and Clark Ashton Smith two of our most accomplished authors, but asks that we encourage more British writers. (*Beynon is British, not American.—EDITOR.*)

ROBERT J. SILBURN, The Dingle, Rhyd-y-felin, Aberystwyth, remarks upon the "great improvement in Turner's drawings," describing those on pp. 14 and 23 of our last issue, illustrating "Death from the Skies," as "superb. The skyscrapers are really beautiful." Verrill's story held his interest throughout, and "Child of Neptune" finished too soon for his liking, though the basic idea was very good. He declares himself in favour of "reaching for the stars, but the interstellar stories must be as good as the interplanetary ones. I prefer a good 'Earth' tale to a bad 'Andromeda.'"

M. G. DURRANT, 59 Muncaster Road, Battersea, feels that our permanent cover is "really a horror—enough to put any prospective reader off the scent." He thinks "The Red Spheres" was "one of the worst stories you have published, and that Geo. C. Wallis has written; it was a blot on the whole of the last issue. Why can't you print more tales like 'City of Singing Flame,' one of the weirdest I have read, with others like 'The Venus Adventure,' 'Worlds to Barter' and 'Across the